

# NEW WORLDS SCIENCE FICTION

**No. 83**

**VOLUME 28**

**2/-**

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**THE  
OUTSTRETCHED HAND**

Arthur Sellings

**PROJECT—STALL**

Philip E. High

**SEARCHPOINT**

Francis G. Rayer

*Serial*

**COUNT-DOWN**

Charles Eric Maine

*Conclusion*

*Article*

**BIOLOGICALLY  
SPEAKING**

Kenneth Johns

*Special Feature*

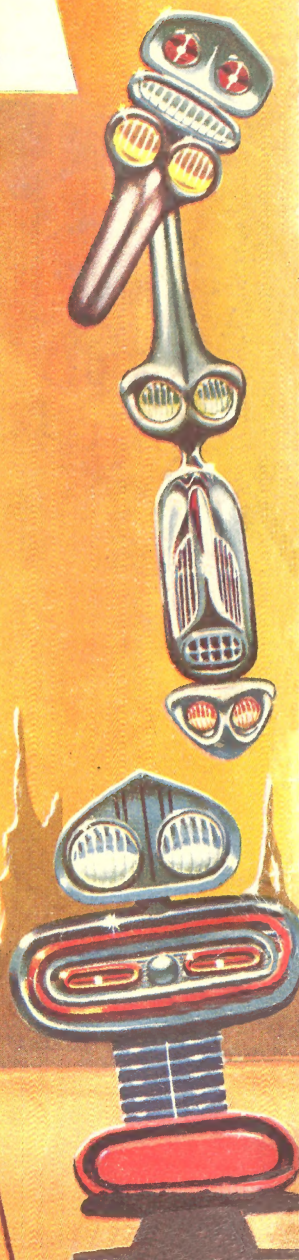
**Survey Report for 1958**

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**13th Year  
of Publication**

## I See You

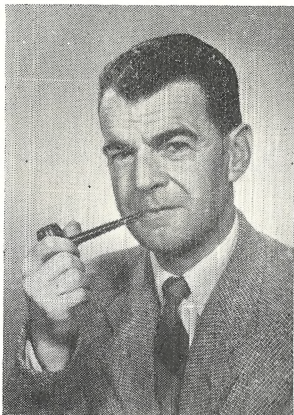
by Harry Harrison



# NEW WORLDS

— PROFILES —

## Philip E. High Canterbury



Author Philip High calls himself “something of a rolling stone”—he has been a commercial traveller, insurance agent, bus driver, reporter, salesman, and many other things, mainly endeavouring to find the right type of job which would give him time to write as well. Particularly science fiction, which he first found when he was thirteen and has been reading steadily ever since.

Asked about his writing, he stated, “I began to write science fiction chiefly from irritation. ‘Why,’ I asked myself, ‘doesn’t X (representing one of my favourite authors) write a story on such-and-such a subject?’ Somehow X never did—and the crop of ideas became so persistent that I finally sat down and wrote them myself, just to get rid of them. I collected an impressive pile of rejection slips before an editor finally accepted a story which, I feel sure, X could have written much better.

“At the risk of being considered dull, I am a firm believer in the ‘incentive value’ of science fiction. I have personally studied and followed up a variety of subjects simply because my interests were aroused by references to them in science fiction stories. The value to the mind, insofar that it widens one’s concepts and stimulates the imagination, is I think, incalculable.”

His major interests are: Literature, psychology and drama. His ruling passions: Cars (of any shape or vintage) and a two-year-old daughter, Jacqueline.

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# Survey Report

My thanks are officially extended to every one of you readers in Great Britain who co-operated in our survey questionnaire published in the November and December 1958 issues. The response was extremely rapid and, unlike our 1955 survey which took nearly six months to finalize, sufficient replies came in within the two month period the questionnaire appeared to enable us to close out the report. Replies came from a wide section of the readership; many of you accompanied your answers with lengthy letters (all of which were appreciated but were too numerous to answer).

The statistics shown below are based on the first 500 questionnaires returned and show some surprising changes from the 1955 figures. Although the average age has hardly altered there has been a big shift in the various groups making up the percentage. Similarly, there are big changes in the educational and salary brackets as well as a surprising increase in the percentage of readers who are either technically employed or technically minded.

To enable you to compare the changes, the 1955 figures are shown *in brackets* against each question.

**Age:** 30.8 years (31.7)

Male readers 90% (95%); Married 54% (51%); Single 46% (49%).

**Age Groups:** 18%, under 20 years (5%); 21%, 20-24 years (17%); 21%, 25-30 years (31%); 22%, 31-40 years (30%); 12%, 41-50 years (12%); 6%, over 50 years (5%).

**Salary Group:** Males only (per annum):

11%, No income (—); 9%, under £250 (4%); 17%, £250-£500 (37%); 24%, £500-£750 (34%); 14%, £750-£1000 (17%); 25%, over £1000 (8%).

**Degrees:** 1958—28% (12% B.Sc.; 3% B.A.; 13% others).

1955—26% (13% B.Sc.; 4% M.A.; 2% M.D.; 7% others).

**Technical Employment:** 52% (35%).

13% Engineering (6%); 5% Teachers (4%); 9% Chemical, Pharmaceutical, Doctors, Lab. Technicians (7%); 3% Radio & T.V. (3%); 5% Computers (—); 5% R.A.F. (6%); 3% Telecommunications (—); 4% Tech. admin. (—); 1% Industrial (—); 4% Others, various (6%).

**Non-Technical Employment:** 48% (65%).

14% Students (—); 6% Executive, Admin. (10%); 5% Civil Service (—); 5% Office Clerical (3%); 18% Others, various (28%).

# ..... 1958

## *Education Groups:*

13% Elementary (—); 14% Secondary (27%); 27% Grammar (21%); 21% Technical & College (17%); 21% University (9%); 4% Public (5%).

(1955—other listings: 9% Central; 4% Private; 8% none listed).

## *New Worlds features in order of preference:*

- |                    |                     |                       |
|--------------------|---------------------|-----------------------|
| 1. Novelettes (1.) | 2. Serials (3).     | 3. Short Stories (2). |
| 4. Articles (4).   | 5. Book Reviews (5) | 6. Postmortem (6).    |

*Library:* 74% stated they belonged to one or more (71%).

## *Preference for books as opposed to magazines:*

55% didn't mind (30%); 28% preferred magazines (47%); 17% preferred books (23%).

*Average number of other magazines read:* 3 (4).

## *Membership of the Science Fiction Book Club:*

28% (question not asked in 1955).

## *Hobbies:* Averaged 3 per person (2).

33% Reading and/or Literature (23%) and 16% added Science Fiction (4%); 16% Photography (15%); 23% Sport (15%); 18% Music (10%); 13% Indoor Games (10%); 10% Astronomy (8%); 15% Do-it-yourself (—); 7% Hi-fi & Radio (9%); 7% Gardening (—); 7% The Arts (—); 7% Sciences (—); 5% Tape Recording (—); 9% Motoring (—); Nil Astronautics (3%); 4% Cine Photography (—).

The remaining percentage was spread over a wide variety of hobbies. Incidentally 1955 showed a 6% interest in dancing and jazz but 1958 showed a nil return.

No statistical survey can ever be completely accurate although it is surprising how narrow the margin of error usually turns out to be. With an increase of 17% in the under-25 readership we can well ask where the 18% missing between 25 and 40 years have gone. Tie this query in with the changes in Salary Groups (a drop of 13% in the former middle-income bracket) and add the prevailing economic conditions during the past twelve months and we can assume that the family man has had to relinquish much of his personal reading in favour of a house, car and/or various expensive household appliances on hire purchase.

Also, unemployment figures have risen considerably during the past year but the true picture is that short time and very little overtime in the industrial areas has made a big difference to the sales of all classes of reading matter.

The big surprises in the 1958 Survey were : the swing to technically minded youth (14% Students) and technical training—if we add the Technical and College educational group to the University group they combine to 42% as against 26% in 1955; and the surprising shift in the over £1,000 a year bracket—25% as against 8% three years ago. Notice also that there has been little change in the percentage of readers over 40 years of age (actually an increase of 1%), from which we may well deduce that the older reader is firmly established in his business and home life and, apart from increased salary, has not changed his habit patterns during the past three years.

A break-down of the over £1,000 class into age groups showed : 4%, 25 - 30 years ; 10%, 31 - 40 years ; 7%, 41 - 50 years ; 4% over 50 years. Apart from 5% of this class being in the teaching and medical professions, the remaining 20% did not break down into categories but ranged widely over executive, admin, technical, Civil Service, accountancy, printing, publishing, own businesses to individual positions such as a sea captain, a B.B.C. producer, Customs Officer, Air Traffic control officer, Army and R.A.F. officers, and many others.

In the technical employment group we shifted both the R.A.F. and G.P.O. groups over from the 1955 Non-Technical section as all the replies now showed that both groups were exclusively technical—radar, telecommunications, etc. In this group the surprise was the 5% for computers (even some of the feminine readers were in this section) and readers either worked on them, repaired them—or designed them ! Engineering showed a jump of 7% and covered both electrical and mechanical of all kinds. Strangely enough there was no change in radio and T.V.

*Library Membership* : with three quarters of the replies showing that readers belonged to one or more libraries (a 4% increase) and 33% stating that reading and literature was a hobby, books are in great demand. The rise is almost certainly due to the high cost of books in general (no fault of the publishers) and implies that fewer books are being bought for the home library. We are also inclined to think that these two percentages are strong enough to imply that television is not responsible for a fall-off in the purchase of hard-cover books. The one question we missed asking (“ How many pocketbooks a month do you buy ?”) would have given a much clearer picture of this problem and we will make sure of including it in the next Survey.

Age group percentages for Reading as a hobby were : 8% under 20 years ; 10%, 20 - 24 years ; 5%, 25 - 30 years ; 11%, 31 - 40 years ; 3%, 41 - 50 years ; 1% over 50.

For those belonging to a library : 14% under 20 years ; 17%, 20 - 24 years ; 15%, 25 - 30 years ; 16%, 31 - 40 years ; 9%, 41 - 50 years ; 3% over 50.

Individual hobbies point out that although you read a lot you also have many active pastimes—83% are physically active either indoors or out. Two new hobbies showed up—cine photography and tape recording, the latter mainly tied in with those who also gave Music in their replies. The main surprise in this group, however, was the complete lack of interest in Astronautics—with rockets into space, projectiles already round the Sun and Moon and space travel almost on our doorstep, interest in the technical side has apparently waned. But Astronomy increased by 2% to total 10%—the age breakdown here was ; 3%, under 20 ; 5%, 20 - 24 years ; 1%, 25 - 30 years ; 1%, 31 - 40 years.

Science fiction as a hobby was an interesting one, the breakdown being : 6% under 20 years ; 2%, 20 - 24 years ; 3%, 25 - 30 years ; 4%, 31 - 40 years ; 1%, 41 - 50 years. We assume this to mean *reading* but we also know that many people collect and file science fiction magazines and books and we can produce another interesting statistic here—72% of the returns were made on the printed Survey Form but 28% were submitted on notepaper (we suggested this if you did not wish to mutilate the magazine). If we deduct group submissions where only one copy of the magazine serves either a family or a number of friends we come up with 18% who are probably collectors. (That lost 10% would be very useful in the Circulation department !)

Because the Science Fiction Book Club advertises with us regularly and because they also publish some of the finest science fiction titles available, we wanted to know what percentage of our readership were members. The 28% comprised : 2% under 20 years ; 8%, 20 - 24 years ; 5%, 25 - 30 years ; 4%, 31 - 40 years ; 1%, 41 - 50.

A great deal more can be analysed from our returns but space is limited for this report. For this reason, too, we must leave out the feminine statistics but these will be included in another issue of this magazine.

*John Carnell*

*Taking automation to its ultimate end and producing a city robotically controlled for the service of mankind is a pleasant thought—less work, more leisure. But would such an emotionless city take into account the feelings of the individual? Harry Harrison makes full use of such an intriguing theme in this brand new story.*

# I SEE YOU

by HARRY HARRISON

---

The judge was impressive in his black robes, and omniscient in the chromium perfection of his skull. His voice rolled like the crack of doom : rich and penetrating.

“ Carl Tritt, this court finds you guilty as charged. On 218, 2423 you did willfully and maliciously steal the payroll of the Marcix Corporation, a sum totalling 318,000 credits and did attempt to keep these same credits as your own. The sentence is twenty years.”

The black gavel fell with the precision of a pile driver ; the sound bounced back and forth inside Carl's head. Twenty years ! He clamped bloodless fingers on the steel bar of justice and looked up into the judge's electronic eyes. There was perhaps a glint of compassion there, but no mercy. The sentence had been passed and recorded in the Central Memory. There was no appeal.

A panel snapped open in the front of the judge's bench and exhibit “A” slid out on a soundless piston. 318,00 credits

still in their original pay envelopes. The judge pointed as Carl slowly picked it up.

"Here is the money you stole—see that it is returned to the proper people."

Carl shuffled out of the courtroom, the package clutched weakly to his chest, sunk in a sodden despair. The street outside was washed with golden sunlight that he could not see, for his depression shadowed it with the deepest gloom.

His throat was sore and his eyes burned. If he had not been an adult male citizen, age 25, he might have cried. But 25-year-old adult males do not cry. Instead he swallowed heavily a few times.

A twenty year sentence—it couldn't be believed. *Why me?* Of all the people in the world why did *he* have to receive a sentence severe as that? His well-trained conscience instantly shot back the answer. *Because you stole money.* He shied away from that unpleasant thought and stumbled on.

Unshed tears swam in his eyes and trickled back into his nose and down his throat. Forgetting in his pain where he was, he choked a bit. Then spat heavily.

Even as the saliva hit the spotless sidewalk, a waste can twenty feet away stirred into life. It rotated on hidden wheels and soundlessly rolled towards him. In shocked horror Carl pressed the back of his hand to his mouth. Too late to stop what was already done.

A flexible arm licked out and quickly swabbed the side-walk clean. Then the can squatted like a mechanical Buddha while a speaker rasped to life in its metal insides. A tinny, metallic voice addressed Carl.

"Carl Tritt, you have violated Local Ordinance No.bd-14-668 by expectorating on a public sidewalk. The sentence is two days. Your total sentence is now twenty years and two days."

Two other pedestrians had stopped behind Carl, listening with gaping mouths as sentence was passed. Carl could almost hear their thoughts. *A sentenced man! Think of that! Over twenty years sentence!* They bugged their eyes at him in a mixture of fascination and distaste.

Carl rushed away, the package clutched to him and his face flushed red with shame. The sentenced men on video had always seemed so funny. How they fell down and acted bewildered when a door wouldn't open for them.

It didn't seem so funny now.

The rest of that day crept by in a fog of dejection. He had a vague recollection of his visit to the Marcix Corporation to return his stolen money. They had been kind and understanding, and he had fled in embarrassment. All the kindness in the world wouldn't reprieve his sentence.

He wandered vaguely in the streets after that, until he was exhausted. Then he had seen the bar. Bright lights with a fog of smoke inside, looking cheery and warm. Carl had pushed at the door, and pushed again. While the people inside had stopped talking and turned to watch him through the glass. Then he had remembered the sentence and realized the door wouldn't open. The people inside had started laughing and he had run away. Lucky to get off without a further sentence.

When he reached his apartment at last he was sobbing with fatigue and unhappiness. The door opened to his thumb and slammed behind him. This was a refuge at last.

Until he saw his packed bags waiting for him.

Carl's video set hummed into life. He had never realized before it could be controlled from a Central. The screen stayed dark but the familiar voder voice of Sentence Control poured out.

"A selection of clothing and articles suitable for a sentenced man has been chosen for you. Your new address is on your bags. Go there at once."

It was too much. Carl knew without looking that his camera and his books and model rockets—the hundred other little things that meant something to him—were not included in those bags. He ran into the kitchen, forcing open the resisting door. The voice spoke from a speaker concealed above the stove.

"What you are doing is in violation of the law. If you stop at once your sentence will not be increased."

The words meant nothing to him, he didn't want to hear them. With frantic fingers he pulled the cupboard open and reached for the bottle of whisky in the back. The bottle vanished through a trap door he had never noticed before, brushing tantalizingly against his fingers as it dropped.

He stumbled down the hall and the voice droned on behind him. Five more days sentence for attempting to obtain alcoholic beverages. Carl couldn't have cared less.

The cabs and buses wouldn't stop for him and the subslide turnstile spat his coin back like something distasteful. In the end he tottered the long blocks to his new quarters, located in a part of town he had never known existed.

There was a calculated seediness about the block where he was to stay. Deliberately cracked sidewalks and dim lights. The dusty spiderwebs that hung in every niche had a definitely artificial look about them. He had to climb two flights of stairs, each step of which creaked with a different note, to reach his room. Without turning the light on he dropped his bags and stumbled forward. His shins cracked against a metal bed and he dropped gratefully into it. A blissful exhaustion put him to sleep.

When he awoke in the morning he didn't want to open his eyes. It had been a nightmare, he tried to tell himself, and he was out of it now. But the chill air in the room and the grey light filtering through his lids told him differently. With a sigh he abandoned the fantasy and looked around at his new home.

It was clean—and that was all that could be said for it. The bed, a chair, a built-in chest of drawers—these were the furnishings. A single unshielded bulb hung from the ceiling. On the wall opposite him was a large metal calendar sign. It read : *20 years, 5 days, 17 hours, 25 minutes*. While he watched the sign gave an audible click and the last number changed to 24.

Carl was too exhausted by the emotions of the previous day to care. The magnitude of his change still overwhelmed him. He settled back onto the bed in a half daze, only to be jolted up by a booming voice from the wall.

"Breakfast is now being served in the public dining room on the floor above. You have ten minutes." The now familiar voice came this time from a giant speaker at least 5 feet across. And had lost all of its tinny quality. Carl obeyed without thinking twice.

The meal was drab but filling. There were other men and women in the dining room, all very interested in their food. He realized with a start that they were sentenced too. After that he kept his own eyes on his plate and returned quickly to his room.

As he entered the door the video pickup was pointing at him from above the speaker. It followed him like a gun as he walked across the room. Like the speaker, it was the biggest pickup he had ever seen ; a swivelled chrome tube with a glass eye on its end as big as his fist. A sentenced man is alone, yet never has privacy.

Without preliminary warning the speaker blasted and he gave a nervous start.

“Your new employment begins at 1800 hours today, here is the address.” A card leaped out of a slot below the calendar sign and dropped to the floor. Carl had to bend over and scratch at its edges to pick it up. The address meant nothing to him.

He had hours of time before he had to be there, and nothing else to do. The bed was nearby and inviting, he dropped wearily onto it.

Why had he stolen that damned payroll? He knew the answer. Because he had wanted things he could never afford on a telephone technician's salary. It had looked so tempting and fool proof. He damned the accident that had led him to it. The memory still tortured him.

It had been a routine addition of lines in one of the large office buildings.

When he went there he had been by himself, he would not need the robots until after the preliminary survey was done. The phone circuits were in a service corridor just off the main lobby. His pass key let him in through the inconspicuous door and he switched on the light. A maze of wiring and junction boxes covered one wall, leading to cables that vanished down the corridor out of sight. Carl opened his wiring diagrams and began to trace leads. The rear wall seemed to be an ideal spot to attach the new boxes and he tapped it to see if it could take the heavy bolts. It was hollow.

Carl's first reaction was disgust. The job would be twice as difficult if the leads had to be extended. Then he felt a touch of curiosity as to what the wall was there for. It was just a panel he noticed on closer inspection, made up of snap-on sections fitted into place. With his screwdriver he pried one section out and saw what looked like a steel grid supporting metal plates. He had no idea of what their function was, and didn't really care now that his mild curiosity had been settled. After slipping the panel back into place he went on with his work. A few hours later he looked at his watch, then dropped his tools for lunch.

The first thing he saw when he stepped back into the lobby was the bank cart.

Walking as close as he was, Carl couldn't help but notice the two guards who were taking thick envelopes from the cart and putting them into a bank of lockers set into the wall. One envelope to each locker, then a slam of the thick door to seal it

shut. Besides a momentary pang at the sight of all that money Carl had no reaction.

Only when he came back from lunch did he stop suddenly as a thought struck him. He hesitated a fraction of a moment, then went on. No one had noticed him. As he entered the corridor again he looked surreptitiously at the messenger who was opening one of the lockers. When Carl had closed the door behind him and checked the relative position of the wall with his eyes he knew he was right.

What he had thought was a metal grid with plates was really the backs of the lockers and their framework of supports. The carefully sealed lockers in the lobby had unguarded backs that faced into the service corridor.

He realized at once that he should do nothing at the time, nor act in any way to arouse suspicion. He did, however, make sure that the service robots came in through the other end of the corridor that opened onto a deserted hallway at the rear of the building where he had made a careful examination of the hall. Carl even managed to make himself forget about the lockers for over six months.

After that he began to make his plans. Casual observation at odd times gave him all the facts he needed. The lockers contained payrolls for a number of large companies in the building. The bank guards deposited the money at noon every Friday. No envelopes were ever picked up before one p.m. at the earliest. Carl noticed what seemed to be the thickest envelope and made his plans accordingly.

Everything went like clockwork. At ten minutes to twelve on a Friday he finished a job he was working on and left. He carried his toolbox with him. Exactly ten minutes later he entered the rear door of the corridor without being seen. His hands were covered with transparent and nearly invisible gloves. By 12 : 10 he had the panel off and the blade of a long screwdriver pressed against the back of the selected locker ; the handle of the screwdriver held to the bone behind his ear. There was no sound of closing doors so he knew the bank men had finished and gone.

The needle flame of his torch ate through the steel panel like soft cheese. He excised a neat circle of metal and pulled it free. Beating out a smouldering spot on the money envelope, he transferred it to another envelope from his toolbox. This envelope he had addressed to himself and was already stamped.

One minute after leaving the building he would have the envelope in the mail and would be a rich man.

Carefully checking, he put all the tools and the envelope back into his toolbox and strode away. At exactly 12 : 35 he left through the rear corridor door and locked it behind him. The corridor was still empty, so he took the extra seconds to jimmy the door open with a tool from his pocket. Plenty of people had keys to that door, but it didn't hurt to widen the odds a bit.

Carl was actually whistling when he walked out into the street.

Then the peace officer took him by the arm.

"You are under arrest for theft," the officer told him in a calm voice.

The shock stopped him in his tracks and he almost wished it had stopped his heart the same way. He had never planned to be caught and never considered the consequences. Fear and shame made him stumble as the policeman led him to the waiting car. The crowd watched in fascinated amazement.

When the evidence had been produced at his trial he found out, a little late, what his mistake had been. Because of the wiring and conduits in the corridor it was equipped with infra-red thermocouples. The heat of his torch had activated the the alarm and an observer at Fire Central had looked through one of their video pickups in the tunnel. He had expected to see a short circuit and had been quite surprised to see Carl removing the money. His surprise had not prevented him from notifying the police. Carl had cursed fate under his breath.

The grating voice of the speaker cut through Carl's bad-tasting memories.

"1730 hours. It is time for you to leave for your employment."

Wearily, Carl pulled on his shoes, checked the address, and left for his new job. It took him almost the full half hour to walk there. He wasn't surprised in the slightest when the address turned out to be the Department of Sanitation.

"You'll catch on fast," the elderly and worn supervisor told him. "Just go through this list and kind of get acquainted with it. Your truck will be along in a moment."

The list was in reality a thick volume of lists, of all kinds of waste materials. Apparently everything in the world that could be discarded was in the book. And each item was followed by a key number. These numbers ran from one to thirteen and seemed to be the entire purpose of the volume. While Carl was puzzling over their meaning there was the sudden roar of a heavy motor. A giant robot-operated truck pulled up the ramp and ground to a stop near them.

"Garbage truck," the supervisor said wearily. "She's all yours."

Carl had always known there were garbage trucks, but of course he had never seen one. It was a bulky, shining cylinder over twenty metres long. A robot driver was built into the cab. Thirty other robots stood on foot steps along the sides. The supervisor led the way to the rear of the truck and pointed to the gaping mouth of the receiving bin.

"Robots pick up the garbage and junk and load it in there," he said. "Then they press one of these here thirteen buttons keying whatever they have dumped into one of the thirteen bins inside the truck. They're just plain lifting robots and not too brainy, but good enough to recognize most things they pick up. But not all the time. That's where you come in, riding along right there."

The grimy thumb was now aiming at a transparent walled cubicle that also projected from the back of the truck. There was a padded seat inside, facing a shelf set with thirteen buttons.

"You sit there, just as cozy as a bug in a rug I might say, ready to do your duty at any given moment. Which is whenever one of the robots finds something it can't identify straight off. So it puts whatever it is into the hopper outside your window. You give it a good look, check the list for the proper category if you're not sure, then press the right button and in she goes. It may sound difficult at first, but you'll soon catch onto the ropes."

"Oh, it sounds complicated all right," Carl said, with a dull feeling in his gut as he climbed into his turret, "but I'll try and get used to it."

The weight of his body closed a hidden switch in the chair, and the truck growled forward. Carl scowled down unhappily at the roadway streaming out slowly from behind the wheels, as he rode into the darkness, sitting in his transparent boil on the back side of the truck.

It was dull beyond imagining. The garbage truck followed a programmed route that led through the commercial freight ways of the city. There were few other trucks moving at that hour of the night, and they were all robot driven. Carl saw no other human beings. He was snug as a bug. A human flea being whirled around inside the complex machine of the city. Every few minutes the truck would stop, the robots clatter off, then return with their loads. The containers dumped, the robots leaped back to their foot plates, and the truck was off once more.

An hour passed before he had his first decision to make. A robot stopped in mid-dump, ground its gears a moment, then dropped a dead cat into Carl's hopper. Carl stared at it with horror. The cat stared back with wide, sightless eyes, its lips drawn back in a fierce grin. It was the first corpse Carl had ever seen. Something heavy had dropped on the cat, reducing the lower part of its body to paper-thinness. With an effort he wrenched his eyes away and jerked the book open.

*Castings . . . Cast Iron . . . Cats (dead) . . .* Very, very much dead. There was the bin number. Nine. One bin per life. After the ninth—the ninth bin. He didn't find the thought very funny. A fierce jab at button 9 and the cat whisked from sight with a last flourish of its paw. He repressed the sudden desire to wave back.

After the cat boredom set in with a vengeance. Hours dragged slowly by and still his hopper was empty. The truck rumbled forward and stopped. Forward and stop. The motion lulled him and he was tired. He leaned forward and laid his head gently on the list of varieties of garbage, his eyes closed.

"Sleeping is forbidden while at work. This is warning number one."

The hatefully familiar voice blasted from behind his head and he started with surprise. He hadn't noticed the pickup and speaker next to the door. Even here, riding a garbage truck to eternity, the machine watched him. Bitter anger kept him awake for the duration of the round.

Days came and went after that in a grey monotony, the calendar on the wall of his room ticking them off one by one. But not fast enough. It now read 19 years, 322 days, 8 hours, 16 minutes. Not fast enough. There was no more interest in his life. As a sentenced man there were very few things he

could do in his free time. All forms of entertainment were closed to him. He could gain admittance—through a side door—to only a certain section of the library. After one futile trip there, pawing through the inspirational texts and moral histories, he never returned.

Each night he went to work. After returning he slept as long as he could. After that he just lay on his bed, smoking his tiny allotment of cigarettes, and listening to the seconds being ticked off his sentence.

Carl tried to convince himself that he could stand twenty years of this kind of existence. But a growing knot of tension in his stomach told him differently.

This was before the accident. The accident changed everything.

A night like any other. The garbage truck stopped at an industrial site and the robots scurried out for their loads. Nearby was a cross-country tanker, taking on some liquid through a flexible hose. Carl gave it bored notice only because there was a human driver in the cab of the truck. That meant the cargo was dangerous in some way, robot drivers being forbidden by law from handling certain loads. He idly noticed the driver open the door and start to step out. When the man was halfway out he remembered something, turned back and reached for it.

For a short moment the driver brushed against the starter button. The truck was in gear and lurched forward a few feet. The man quickly pulled away—but it was too late.

The movement had been enough to put a strain on the hose. It stretched—the supporting arm bent—then it broke free from the truck at the coupling. The hose whipped back and forth, spraying greenish liquid over the truck and the cab, before an automatic cut-out turned off the flow.

This had taken only an instant. The driver turned back and stared with horror-widened eyes at the fluid dripping over the truck's hood. It was steaming slightly.

With a swooshing roar it burst into fire, and the entire front of the truck was covered with flame. The driver invisible behind the burning curtain.

Before being sentenced Carl had always worked with robot assistance. He knew what to say and how to say it to get instant obedience. Bursting from his cubicle he slapped one of the garbage robots on its metal shoulder and shouted an order. The robot dropped a can it was emptying and ran at full speed for the truck, diving into the flames.

More important than the driver, was the open port on top of the truck. If the flames should reach it the entire truck would go up—showering the street with burning liquid.

Swathed in flame, the robot climbed the ladder on the truck's side. One burning hand reached up and flipped the self-sealing lid shut. The robot started back down through the flames, but stopped suddenly as the fierce heat burned at its controls. For a few seconds it vibrated rapidly like a man in pain, then collapsed. Destroyed.

Carl was running towards the truck himself, guiding two more of his robots. The flames still wrapped the cab, seeping in through the partly open door. Thin screams of pain came from inside. Under Carl's directions one robot pulled the door open and the other dived in. Bent double, protecting the man's body with its own, the robot pulled the driver out. The flames had charred his legs to shapeless masses and his clothes were on fire. Carl beat out the flames with his hands as the robot dragged the driver clear.

The instant the fire had started, automatic alarms had gone off. Fire and rescue teams plunged toward the scene. Carl had just put out the last of the flames on the unconscious man's body when they arrived. A wash of foam instantly killed the fire. An ambulance jerked to a stop and two robot stretcher-bearers popped out of it. A human doctor followed. He took one look at the burned driver and whistled.

"Really cooked him to a char!"

He grabbed a pressurized container from the stretcher-bearer and sprayed jelly-like burn dressing over the driver's legs. Before he had finished the other robot snapped open a medical kit and proffered it. The doctor made quick adjustments on a multiple syringe, then gave the injection. It was all very fast and efficient.

As soon as the stretcher-bearers had carried the burned driver into the ambulance, it jumped forward. The doctor mumbled instruction to the hospital into his lapel radio. Only then did he turn his attention to Carl.

"Let's see those hands," he said.

Everything had happened with such speed that Carl had scarcely noticed his burns. Only now did he glance down at the scorched skin and feel sharp pain. The blood drained from his face and he swayed.

"Easy does it," the doctor said, helping him sit down on the ground. "They're not as bad as they look. Have new skin on them in a couple of days." His hands were busy while he talked and there was the sudden prick of a needle in Carl's arm. The pain ebbed away.

The shot made things hazy after that. Carl had vague memories of riding to the hospital in a police car. Then the grateful comfort of a cool bed. They must have given him another shot then because the next thing he knew it was morning.

That week in the hospital was like a vacation for Carl. Either the staff didn't know of his sentenced status or it didn't make any difference. He received the same treatment as the other patients. While the accelerated grafts covered his hands and forearms with new skin, he relaxed in the luxury of the soft bed and varied food. The same drugs that kept the pain away prevented his worry about returning to the outside world. He was also pleased to hear that the burned driver would recover.

On the morning of the eighth day the staff dermatologist prodded the new skin and smiled. "Good job of recovery, Tritt," he said. "Looks like you'll be leaving us today. I'll have them fill out the forms and send for your clothes."

The old knot of tension returned to Carl's stomach as he thought of what waited for him outside. It seemed doubly hard now that he had been away for a few days. Yet there was nothing else he could possibly do. He dressed as slowly as he could, stretching the free time remaining as much as possible.

As he started down the corridor a nurse waved him over. "Mr. Skarvy would like to see you—in here."

Skarvy. That was the name of the truck driver. Carl followed her into the room where the burly driver sat up in bed. His big body looked strange somehow, until Carl realized there was no long bulge under the blankets. The man had no legs.

"Chopped 'em both off at the hips," Skarvy said when he noticed Carl's gaze. He smiled. "Don't let it bother you. Don't bother me none. They planted the regen-buds and they tell me in less than a year I'll have legs again, good as new. Suits me fine. Better than staying in that truck and frying." He hitched himself up in the bed, an intense expression on his face.

"They showed me the films Fire Central made through one of their pick-ups on the spot. Saw the whole thing. Almost upchucked when I saw what I looked like when you dragged me out." He pushed out a meaty hand and pumped Carl's. "I want to thank you for doing what you done. Taking a chance like that." Carl could only smile foolishly.

"I want to shake your hand," Skarvy said. "Even if you are a sentenced man."

Carl pulled his hand free and left. Not trusting himself to say anything. The last week *had* been a dream. And a foolish one. He was still sentenced and would be for years to come. An outcast of society who never left it.

When he pushed open the door to his drab room the all too-familiar voice boomed out of the speaker.

"Carl Tritt. You have missed seven days of your work assignment, in addition there is an incomplete day, only partially worked. This time would normally not be deducted from your sentence. There is however precedent in allowing deduction of this time and it will be allowed against your total sentence." The decision made, the numbers clicked over busily on his calendar.

"Thanks for nothing," Carl said and dropped wearily on his bed. The monotonous voder voice went on, ignoring his interruption.

"In addition, an award has been made. Under Sentence Diminution Regulations your act of personal heroism, risking your own life to save another's, is recognized as a pro-social act and so treated. The award is three years off your sentence."

Carl was on his feet, staring unbelievably at the speaker. Was it some trick? Yet as he watched the calendar mechanism ground gears briefly and the year numbers slowly turned over. 18 . . . 17 . . . 16 . . . The whirring stopped.

Just like that. Three years off his sentence. It didn't seem possible—yet there were the numbers to prove that it was.

"Sentence Control!" he shouted. "Listen to me! What happened? I mean how can a sentence be reduced by this award business? I never heard anything about it before?"

"Sentence reduction is never mentioned in public life," the speaker said flatly. "This might encourage people to break the law, since the threat of sentence is considered a deterrent. Normally a sentenced person is not told of sentence reduction until after their first year. Your case however is exceptional

since you were awarded reduction before the end of the said year."

"How can I find out more about sentence reduction?" Carl asked eagerly.

The speaker hummed for a moment, then the voice crackled out again. "Your Sentence Advisor is Mr. Prisbi. He will advise you in whatever is to be done. You have an appointment for 1300 hours tomorrow. Here is his address."

The machine clicked and spat out a card. Carl was waiting for it this time and caught it before it hit the floor. He held it carefully, almost lovingly. Three years off his sentence and tomorrow he would find out what else he could do to reduce it even more.

Of course he was early, almost a full hour before he was due. The robot-receptionist kept him seated in the outer office until the exact minute of his appointment. When he heard the door lock finally click open he almost jumped to it. Forcing himself to go slow, he entered the office.

Prisbi, the Sentence Advisor, looked like a preserved fish peering through the bottom of a bottle. He was dumpy fat, with dead white skin and lumpy features that looked like they had been squeezed up like putty from the fat underneath. His eyes were magnified pupils that peered unblinkingly through eyeglass lenses almost as thick as they were wide. In a world where contact lenses were the norm, his vision was so bad it could not be corrected by the tiny lenses. Instead he wore the heavy-framed, anachronistic spectacles, perched insecurely on his puffy nose.

Prisbi did not smile or say a word when Carl entered the door. He kept his eyes fixed steadily on him as he walked the length of the room. They reminded Carl of the video scanners he had grown to hate, and he shook the idea away.

"My name is . . ." he began.

"I know your name, Tritt," Prisbi rasped. The voice seemed too coarse to have come from those soft lips. "Now sit down in that chair—there." He jerked his pen at a hard metal chair that faced his desk.

Carl sat down and immediately blinked from the strong lights that focused on his face. He tried to slide the chair back, until he realized it was fastened to the floor. He just sat then and waited for Prisbi to begin.

Prisbi finally lowered his glassy gaze and picked up a file of papers from his desk. He riffled through them for a full minute before speaking.

"Very strange record, Tritt," he finally grated out. "Can't say that I like it at all. Don't even know why Control gave you permission to be here. But since you are—tell me why."

It was an effort to smile but Carl did. "Well you see, I was awarded a three year reduction in sentence. This is the first I ever heard of sentence reduction. Control sent me here, said you would give me more information."

"A complete waste of time," Prisbi said, throwing the papers down onto the desk. "You aren't eligible for sentence reduction until after you've finished your first year of sentence. You have almost ten months to go. Come back then and I'll explain. You can leave."

Carl didn't move. His hands were clenched tight in his lap as he fought for control. He squinted against the light, looking at Prisbi's unresponsive face.

"But you see I have already *had* sentence reduction. Perhaps that's why control told me to come—"

"Don't try and teach me the law," Prisbi growled coldly. "I'm here to teach it to you. All right I'll explain. Though it's of absolutely no value now. When you finish your first year of sentence—a *real* year of *work* at your assigned job—you are eligible for reduction. You may apply then for other work that carries a time premium. Dangerous jobs such as satellite repair, that take two days off your sentence for every day served. There are even certain positions in atomics that allow three days per day worked, though these are rare. In this way the sentenced man benefits himself, learns social consciousness, and benefits society at the same time. Of course this doesn't apply to you yet."

"Why not?" Carl was standing now, hammering on the table with his still tender hands. "Why do I have to finish a year at that stupid, made-work job? It's completely artificial, designed to torture, not to accomplish anything. The amount of work I do every night could be done in three seconds by a robot when the truck returned. Do you call that teaching social consciousness? Humiliating, boring work that—"

"Sit down Tritt" Prisbi shouted in a high, cracked voice. "Don't you realize where you are? Or who I am? I tell *you* what to do. You don't say anything to me outside of *yes sir* or

*no sir.* I say you must finish your primary year of work then return here. That is an order."

"I say you're wrong," Carl shouted. "I'll go over your head—see your superiors—you just can't decide my life away like that!"

Prisbi was standing now too, a twisted grimace splitting his face in a caricature of a smile. He roared at Carl.

"You can't go over my head or appeal to anyone else—I have the last word! You hear that? *I tell you what to do.* I say you work—and you're going to work. You doubt that? You doubt what I can do?" There was a bubble of froth on his pale lips now. "I say you have shouted at me and used insulting language and threatened me, and the record will bear me out!"

Prisbi fumbled on his desk until he found a microphone. He raised it, trembling, to his mouth and pressed the button.

"This is Sentence Advisor Prisbi. For actions unbecoming a sentenced man when addressing a Sentence Advisor, I recommend Carl Tritt's sentence be increased by one week."

The answer was instantaneous. The Sentence Control speaker on the wall spoke in its usual voder tones, "Sentence approved. Carl Tritt, seven days have been added to your sentence, bringing it to a total of sixteen years . . ."

The words droned on, but Carl wasn't listening. He was staring down a red tunnel of hatred. The only thing he was aware of in the entire world was the pasty white face of Advisor Prisbi.

"You . . . didn't have to do that," he finally choked out. "You don't have to make it worse for me when you're supposed to be helping me." Sudden realization came to Carl. "But you don't want to help me, do you? You enjoy playing God with sentenced men, twisting their lives in your hands—"

His voice was drowned out by Prisbi's, shouting into the microphone again . . . *deliberate insults . . . recommend a month to be added to Carl Tritt's sentence . . .* Carl heard what the other man was saying. But he didn't care any more. He had tried hard to do it their way. He couldn't do it any longer. He hated the system, the men who designed it, the machines that enforced it. And most of all he hated the man before him, who was a summation of the whole rotten mess. At the end, for all his efforts, he had ended up in the hands of this pulpy sadist. It wasn't going to be that way at all.

"Take your glasses off," he said in a low voice.

"What's that . . . what?" Prisbi said. He had finished shouting into the microphone and was breathing heavily. A long thread of saliva hung pendant from his gagging lip, almost touching the desk.

"Don't bother," Carl said reaching slowly across the table. "I'll do it for you." He pulled the man's glasses off and laid them gently on the table. Only then did Prisbi realize what was happening. No was all he could say, in a sudden outburst of breath.

Carl's fist landed square on those hated lips, broke them, broke the teeth behind them and knocked the man back over his chair onto the floor. The tender new skin on Carl's hand was torn and blood dripped down his fingers. He wasn't aware of it. He stood over the huddled, whimpering shape on the floor and laughed. Then he stumbled out of the office, shaken with laughter.

The robot-receptionist turned a coldly disapproving, glass and steel, face on him and said something. Still laughing he wrenched a heavy light stand from the floor and battered the shining face in. Clutching the lamp he went out into the hall.

Part of him screamed in terror at the enormity of what he had done, but just part of his mind. And this small voice was washed away by the hot wave of pleasure that surged through him. He was breaking the rules—all of the rules—this time. Breaking out of the cage that had trapped him all of his life.

As he rode down in the automatic elevator the laughter finally died away, and he wiped the dripping sweat from his face. A small voice scratched in his ear.

"Carl Tritt, you have committed violation of sentence and your sentence is hereby increased by . . ."

"Where are you!" he bellowed. "Don't hide there and whine in my ear. Come out!" He peered closely at the wall of the car until he found the glass lens.

"You see me, do you?" he shouted at the lens. "Well I see you too!" The lamp stand came down and crashed into the glass. Another blow tore through the thin metal and found the speaker. It expired with a squawk.

People ran from him in the street, but he didn't notice them. They were just victims the way he had been. It was the enemy he wanted to crush. Every video eye he saw caught a blow from the battered stand. He poked and tore until he silenced

every speaker he passed. A score of battered and silent robots marked his passage.

It was inevitable that he should be caught. He neither thought about that or cared very much. *This* was the moment he had been living for all his life. There was no battle song he could sing, he didn't know any. But there was one mildly smutty song he remembered from his school days. It would have to do. Roaring it at the top of his voice, Carl left a trail of destruction through the shining perfection of the city.

The speakers never stopped talking to Carl, and he silenced them as fast as he found them. His sentence mounted higher and higher with each act.

"... making a total of two-hundred and twelve years, nineteen days and ..." The voice was suddenly cut off as some control circuit finally realized the impossibility of its statements. Carl was riding a moving ramp towards a freight level. He crouched, waiting for the voice to start again so he could seek it out and destroy it. A speaker rustled and he looked around for it.

"Carl Tritt, your sentence has exceeded the expected bounds of your life and is therefore meaningless ..."

"Always was meaningless," he shouted back. "I know that now. Now where are you? I'm going to get you!" The machine droned on steadily.

"... in such a case you are remanded for trial. Peace officers are now in their way to bring you in. You are ordered to go peacefully or ... GLLLRK ..." The lamp stand smashed into the speaker.

"Send them," Carl spat into the mass of tangled metal and wire. "I'll take care of them too."

The end was preordained. Followed by the ubiquitous eyes of Central, Carl could not run forever. The squad of officers cornered him on a lower level and closed in. Two of them were clubbed unconscious before they managed to get a knock-out needle into his flesh.

The same courtroom and the same judge. Only this time there were two muscular human guards present to watch Carl. He didn't seem to need watching, slumped forward as he was against the bar of justice. White bandages covered the cuts and bruises.

A sudden humming came from the robot judge as he stirred to life. "Order in the court," he said, rapping the gavel once

and returning it to its stand. "Carl Tritt, this court finds you guilty . . ."

"What, again? Aren't you tired of that sort of thing yet?" Carl asked.

"Silence while sentence is being passed," the judge said loudly and banged down again with the gavel. "You are guilty of crimes too numerous to be expiated by sentencing. Therefore you are condemned to Personality Death. Psycho-surgery shall remove all traces of this personality from your body, until this personality is dead, dead, dead."

"Not that," Carl whimpered, leaning forward and stretching his arms out pleadingly towards the judge. "Anything but that."

Before either guard could act, Carl's whimper turned to a loud laugh as he swept the judge's gavel off the bench. Turning with it, he attacked the astonished guards. One dropped instantly as the gavel caught him behind the ear. The other struggled to get his gun out—then fell across the first man's limp body.

"Now judge," Carl shouted with happiness, "*I* have the gavel, let's see what *I* do!" He swept around the end of the bench and hammered the judge's sleek metal head into a twisted ruin. The judge, merely an extension of the machinery of Central Control, made no attempt to defend itself.

There was the sound of running feet in the hall and someone pulled at the door. Carl had no plan. All he wanted to do was remain free and do as much damage as long as the fire of rebellion burned inside of him. There was only the single door into the courtroom. Carl glanced quickly around and his technician's eye noticed the access plate set in the wall behind the judge. He twisted the latch and kicked it open.

A video tube was watching him from a high corner of the courtroom, but that couldn't be helped. The machine could follow him wherever he went anyway. All he could do was try and stay ahead of the pursuit. He pulled himself through the access door as two robots burst into the courtroom.

"Carl Tritt, surrender at once. A further change has been . . . has been . . . Carl . . . carl . . . ca . . ."

Listening to their voices through the thin metal door, Carl wondered what had happened. He hazarded a look. Both robots had ground to a halt and were making aimless motions. Their speakers rustled, but said nothing. After a few moments the random movements stopped. They turned at the same time,

picked up the unconscious peace officers, and went out. The door closed behind them. Carl found it very puzzling. He watched for some minutes longer, until the door opened again. This time it was a tool-hung repair robot that trundled in. It moved over to the ruined judge and began dismantling it.

Closing the door quietly, Carl leaned against its cool metal and tried to understand what had happened. With the threat of immediate pursuit removed, he had time to think.

Why hadn't he been followed? Why had Central Control acted as if it didn't know his whereabouts? This omnipotent machine had scanning tubes in every square inch of the city, he had found that out. And it was hooked into the machines of the other cities of the world. There was no place it couldn't see. Or rather one place.

The thought hit him so suddenly he gasped. Then he looked around him. A tunnel of relays and controls stretched away from him, dimly lit by glow plates. It could be—yes it could be. *It had to be.*

There could be only one place in the entire world that Central Control could not look—inside its own central mechanism. Its memory and operating circuits. No machine with independent decision could repair its own thinking circuits. This would allow destructive negative feedback to be built up. An impaired circuit could only impair itself more, it couldn't possibly repair itself.

He was inside the brain circuits of Central Control. So as far as that city-embracing machine knew he had ceased to be. He existed nowhere the machine could see. The machine could see everywhere. Therefore he didn't exist. By this time all memory of him had been probably erased.

Slowly at first, then faster and faster, he walked down the corridor.

"Free!" he shouted. "Really free—for the first time in my life. Free to do as I want, to watch the whole world and laugh at them!" A power and a happiness flowed through him. He opened door after door, exulting in his new kingdom.

He was talking aloud, bubbling with happiness. "I can have the repair robots that work on the circuits bring me food. Furniture, clothes—whatever I want. I can live here just as I please—do what I please." The thought was wildly exciting. He threw open another door and stopped, rigid.

The room before him was tastefully furnished, just as he would have done it. Books, paintings on the walls, soft music

coming from a hidden record player. Carl gaped at it. Until the voice spoke behind him.

"Of course it would be wonderful to live here," the voice said. "To be master of the city, have anything you want at your fingertips. But what makes you think, poor little man, that you are the *first* one to realize that. And to come here. And there is really only room for one you know."

Carl turned slowly, very slowly.

Measuring the distance between himself and the other man who stood behind him in the doorway.

Weighing the chances of lashing out with the gavel he still clutched, before the other man could fire the gun he held in his hand.

*Harry Harrison*

## THE LITERARY LINE-UP

The June issue will have that long-awaited 'Sector General' novelette from James White as the lead story. "Visitor At Large" poses more than the usual difficult problem for Dr. Conway—the frightened offspring of a dying physiological-type entity running amok through the gigantic interstellar hospital and able to alter its shape at will! With the hundreds of different types of aliens aboard, hiding places are abundant—but there is far more to the story than just that, as you will see when you read it.

Kenneth Bulmer returns with a fine novelette, "The Gentle Approach," and some really interesting short stories are already lined up. Definitely to be included will be a tongue-in-cheek satire from Colin Kapp, "Calling Mr. Francis," and a rare contribution from American editor/author/book-reviewer Damon Knight entitled "Idiot Stick." Plus others not finalised at this time.

Ratings for No. 79 were :

- |    |                               |         |                   |
|----|-------------------------------|---------|-------------------|
| 1. | A Man Called Destiny, Part II | -       | Lan Wright        |
| 2. | The Unbeaten Track            | - - -   | Brian W. Aldiss   |
| 3. | In Gratitude                  | - - - - | Robert Silverberg |
| 4. | For The Colour Of His Hair    | -       | Arthur Sellings   |
| 5. | Insecurity Risk               | - - - - | Dan Morgan        |
| 6. | The Right Ingredients         | - - -   | George Whitley    |

*Philip High's approach to his main theme is a really interesting one and shows a great deal of ingenuity in its construction—how unlock the mysteries of a Martian technology when it was completely alien to anything Man had ever known?*

# PROJECT - - STALL

by PHILIP E. HIGH

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Hilton pushed the heap of reports wearily to one side and looked up. He was a thin, sandy man with a straggly moustache and mild but astute blue eyes.

“Gentlemen, I will make this as brief and as blunt as possible—we’re getting nowhere fast. Apart from the excavation side, we’re exactly where we were when we came out here three years ago. Naturally, Earth wants to know what we’re up to and, just when, the billions being poured into this project are going to pay dividends.” He paused, looking from one to the other, frowning. “I’m not looking for scapegoats and I lack the specialised knowledge to tell you how to do the job, but it seems to me that you’re all shut up in your special compartments and getting nowhere. The only answer I can see to this is re-organisation and, by God, I intend to reorganise.” He paused, his mild face suddenly grim. “I’ve been damn busy trying to make your vague reports sound like something factual and stalling off a lot of pointed questions from earth. Candidly it’s a job that’s kept me chained to a desk but that phase is over now, I’m appointing myself co-ordinator.” He thrust out his chin. “Gentlemen, we’re starting *now* and I have no intention

of referring to these." He pointed to the heap of papers. "I want your problems and difficulties aired, right here in this room."

'My God,' thought Saffry, the chemist. 'The old man's tough, deep down he's a leader. He gave us a lot of rope and now he intends to hang us with it. Not that anyone could blame him, if Earth decided to call accounts, the penalty for failure would be laid at this door.'

Hilton looked once more at the faces in the uncomfortably crowded circular room. "Mr. Minter, I'll start with you. Your report only confirms the murals revealed when the excavations began, we *knew* these people had space travel—have you nothing to add?"

Minter shifted uncomfortably, took off his obsolete spectacles and began to polish them nervously. "We're bogged down on translation," he said, unhappily. "All we *have* are the murals."

Chinnock pushed his way to the front, his stocky figure aggressive and his face slightly flushed. "I'd like to say a word if you've no objection, sir. I knew the whole business would devolve on me and, I might add, I'm prepared for it. I'm absolutely snowed under with requests, chits, demands for this and that, which I haven't a hope of handling in ten years."

Hilton nodded, his face expressionless. "This is a progress report, Mr. Chinnock, kindly confine yourself to the facts and leave the recriminations until later."

Chinnock made an angry gesture with his hand, swallowed, then went on more calmly. "Every department comes with requests for translations but I just can't handle it all. These people had a written language but it's limited, very limited. There must have been some other form of communication as well."

"How far have you got with it?"

Chinnock hesitated. "Everywhere and nowhere. We fed the symbols—its a series of indented markings, rather like inverted braille—into a selective computer and managed to break it down into a comprehensible alphabet. To make sure we referred the whole thing to Earth and it was confirmed without question. Unfortunately, when we apply it to artifacts, it doesn't make sense." He turned slightly. "Mr. Selby kindly agreed to bring one or two samples along to illustrate the difficulty."

Selby, the curator, stepped forward. With his untidy fair hair and long neck, he looked rather like an ungainly ostrich but there was no doubt he had studied and classified the objects brought to him with the utmost care. He fumbled in a large case and produced a spherical object about the size of a football. "This is some kind of container, despite its shape it always stands one way and will not roll. One presses these two small indentations here and the small upper section may be removed—so." He held it out for inspection. "As you see, sir, the major section of the container holds some kind of bluish goo—er—jelly. Note the language symbols running from right to left at the base of the container."

Hilton looked at Chinnock. "Well?"

Chinnock moved his head briefly as if his collar was too tight and flushed uncomfortably. "That's what is driving my department crazy, sir. The translation reads:—HOUSE WITH FOUR ROOMS—TYPE 7." He caught the expression on Hilton's face. "The translation was confirmed by six language institutes on Earth, sir," he added, hastily. "Er—Mr. Selby, another, please."

Selby fumbled in his case again and produced another sphere about half the size of the first. He opened it. "Same as before—goo—this time yellow."

Chinnock cleared his throat. "For the benefit of the departments which expect to come up with an answer overnight, the indentations—also confirmed by Earth—read, on a broad translation:—TO CLEAN AND REPAIR—FOR INTERIOR USE ONLY."

There was a long uncomfortable silence in which only Selby seemed at ease, he was searching in his case again. "Another example, sir, really nothing to do with Mr. Chinnock but quite as incomprehensible." He held something up. "A small green cube which looks, and feels, like jelly. It's wrapped in some kind of transparent substance which, so far, we have been unable to remove. We found a room literally packed with the things, whole shelves reaching from floor to ceiling. A rough count gave us a figure just short of a million."

Hilton tugged at the corner of his moustache. "This transparent covering in which the jelly is wrapped, wouldn't acid dissolve it, or couldn't it be burnt off?"

Leas stepped forward, his face grim. "I must take responsibility for that, sir. If anything 'happened,' anything

dangerous, it would be my pigeon. As Precautions Officer I forbade such extreme measures." He took the cube from Selby and held it up, meaningly. "Jelly or gelignite, Mr. Hilton? We haven't a clue as to these people's technology, for all we know we may have opened up an ammunition dump. Impatience, measures lacking caution, might get us blown clean off the planet."

A voice at the back of the room said, derisively: "Technology did you say, Mr. Leas—what technology?"

"And what do you mean by that, Mr. Prentis?" Hilton's voice was warningly abrupt.

"Sorry, sir, like the majority here I guess I'm a little worked up about the whole business. It's like a gigantic riddle with no logical answer. Sometimes I wonder if these people were a race of jokers who deliberately constructed a set-piece for amusement. A kind of cosmic jest to keep the finders puzzling uselessly for centuries. Take the language to begin with—a house with four rooms, type 7—some blue goo in a football. From my side of the fence it's even crazier. We are unearthing a city which promises to be bigger than Greater London and Greater New York put together. The interior walls of the buildings are adorned with pictures some of which depict recognisable spaceships with star charts to confirm the opinion. Other pictures show aircraft and the streets of the city full of vehicular traffic." He paused as if suddenly short of breath.

"To run a vehicle, fly an aircraft, let alone get a spaceship off the ground, one needs a technology—where is it?" He looked angrily about him. "A mechanical civilisation, whatever the power source, must conform to certain defined principles. The buildings for example have elevator shafts and elevators—what the hell drives them? I've checked for hydraulic power, pulleys, electricity, everything. If I could find a button or a switch, I could take it apart and find out what makes it tick but there isn't such a thing to be found. In a basement room we found—according to the translated symbols on the door—a sector power house. It contained a six-foot container like a Grecian urn full of green goo and that was all. Mr. Selby will bear me out when I assure you, that out of all the artifacts unearthed to date, there is not a single object which could be described as a mechanical device. There are no wheels, no springs, no cogs, no nuts and bolts, no pins or paper clips."

Hilton looked at him for a long second then he rose slowly. "I seem to have had you all on the carpet before I heard the

evidence, for that I must apologise. I had no idea you were faced with problems so complex and of such magnitude." He looked about him and shook his head slowly. "Really it's my fault, I should have taken time off from that desk to find out what was going on. Nevertheless we cannot let the matter rest there. Earth is breathing down our necks and, unless we produce something fast, the next supply ship is going to bring a man with a lot of pointed questions and an axe. The programme already suggested therefore must continue with myself as co-ordinator. I propose, therefore, organising you into assault units, to tackle these problems, where possible, as a team—"

Saffry lay in his bunk and scowled at the ceiling. It was all very well Hilton speaking of an assault team but when you were the only chemist on the project, it meant an individual attack. True, Hilton had promised him one of the containers of goo to work on but if he did as well with that as he had with everything else he'd tried, he would have to report failure. In the first place, most of the stuff he'd attempted to analyse had been chemically impossible, the basic substances just couldn't live together without becoming unstable, yet somehow these people had done the impossible. Secondly there was Leas with his precautionary measures: "How do you know it won't explode if you try that, Mr. Saffry?" And, of course, you had no answer, with the chemical insanities that this planet held, anything might happen.

He rose wearily and stared through the small round window which was now almost obscured by dust. Dust, constantly rippling, constantly drifting, following the paths of the winds. How many times did a grain of dust circle the planet in a year? Could you mark a few and follow them round out of curiosity?

'I'm getting tired,' he thought. 'I'm butting my head against an insoluble problem and it's getting me down. Why the hell did man come to Mars in the first place and, in the second, why did that fellow Maitland on the fourth expedition, have to discover a projection which might be the top of a building?

The fifth expedition had comprised seven ships holding experts and excavators . . .

He had been only ten at the time but even now he could recall the excitement in the announcer's voice. "Evidence of an ancient but advanced civilisation has been discovered on

Mars. Messages received today from the expedition state that a large building has already been partly revealed and the existence of a large city buried beneath the sand has been confirmed by sounding instruments. Preliminary investigations suggest that the Martians—now presumed extinct—achieved a civilisation far in advance of our own . . .”

Such had been the beginning, public imagination was fired and money had poured into the construction of new ships and the setting up of a base on Mars itself. Well, they were here, squatting on the outskirts of the first excavations faced with a riddle which began with the first building revealed.

Saffry rubbed his forehead tiredly. It was all riddles. The Martians were no longer assumed extinct, they were assumed—departed, gone away. Where had they gone? Why, out of all the murals, with which they had adorned their walls, was there no picture of a Martian?

The city was in a remarkable state of preservation. Had they intended to return and might they not still do so? Were all the containers, cubes and God knows what, placed there for the homecoming? Was the goo some kind of canned food or had some Martian joker amused himself by, figuratively speaking, switching labels?

God, he'd wanted to come here, ever since he was ten; worked to the small hours night after to night to qualify, to realise a dream—planetary chemist of the Mars project. Hell, what a planet! Always blowing yet never enough to breathe. A nasty shrunken little sun which warmed nobody and hadn't even the guts to put out the stars even at midday.

Saffry began to pull on his suit slowly, vaguely conscious that he would be late for Hilton's morning conference but too depressed to care.

When he arrived the conference was well under way.

“I think we may safely rule out the idea that the jelly cubes are food,” Hilton was saying. “The orderly arrangement infers something else—any suggestions?”

“Records?” suggested Palmer.

“A library?” said someone else with more confidence. “Maybe those are Martian books; no doubt they are wrapped for preservation purposes.”

“That's the most logical suggestion so far.” Hilton was nodding to himself. “I propose we put them under the magnascopes to see if there is a join in the transparent covering—”

Saffry got away half an hour later, relieved that his lateness had gone unnoticed, and clutching a spherical container of goo. The translated indentations informed him that it was for cleaning and repairing (interior use only). He supposed he would have to follow Hilton's line of reasoning and begin with the obvious—rub it on something dirty and see if it cleaned.

It sounded simple. After an hour of futile struggle and increasing profanity, he hadn't begun such a simple test. The goo stayed tight, it refused to be scooped, pried or shaken loose. A sharp knife passed through it and, somehow, it refused to remain in a scoop. The container itself defeated him, how the hell could you get it out when the contents were bigger than the aperture? As a last resource he tried a hand vacuum, the goo rose up to the nozzle taking the container with it. Carefully he turned the vacuum off and sat down. For a minute the temptation to throw the whole lot into the corridor and jump on it had been almost overwhelming.

There was a timid knock on the door and Selby entered. "Brought the morning coffee, old man."

"Er—thanks." Saffry suppressed a scowl of irritation.

"Not at all, as a matter of fact Hilton sent me along to give you a hand if you need it. There's not much a curator can do when everyone is messing around with magna scopes."

And what the hell, Saffry asked himself, could a curator do in his laboratory save get in the damn way? "Nothing you can do at the moment, old chap." He was keeping his voice pleasant with an effort. He liked Selby as an individual but in the small cramped laboratory his tall gangling figure was an irritation and potential menace.

"Mind if I stick around and watch?" Selby laughed self-consciously. "I might learn something, you know—er—where shall I put the coffee, up here on this shelf?" Without waiting for an answer he placed the container on a developer tray, precariously balanced on two suction-pegs.

Saffry, frozen, watched the pegs give way. The tray fell on a beaker of distilled water, which broke. The coffee container knocked over a bottle of vegetable oil and both broke. The mess swept across the bench, steaming coffee, fragments of plastic glass and a thin film of oil.

"I say, I'm awfully sorry, terribly clumsy of me." Selby made a gesture of apology and knocked down a tube of sulphur with his cuff, spilling its contents in the centre of the coffee.

Saffry gripped the edge of the bench and counted slowly and carefully up to ten. It didn't work. "You bloody fool," he exploded. He glared at the spreading mess on the bench. "Do you realise the work entailed just to get this cleared up? Water, as you may have realised, is valuable. Reclamation won't provide more to clean a lab bench. On Earth I could clean it up with a piece of rag or cotton waste but with freightage running at five thousand an ounce they don't bother with that kind of thing. I have, therefore, to put on a heated suit, sand shoes and breather-mask. I have to find a container, go outside, fill it full of sand, return, empty the sand on this mess and suck the whole lot up with a hand vacuum. The bench will, of course, remain only slightly less filthy than at present, whereat, if I am not too old, I'll finally get around to cleaning the vacuum."

Selby went red, then white and began to stutter painfully. "I—I—can't apologise enough, l-l-l-look, will you accept my whole water ration tomorrow? There should be enough to clean the bench completely—"

Saffry saw that the other was genuinely upset and his anger vanished as quickly as it had come. "Forget it—sorry I blew my top, I should be apologising, not you. Candidly I'm just damn edgy, this problem is getting on the top of me."

"I'll help, I'll go and get the sand." Selby was pathetically eager to prove his sincerity and the chemist warmed to him.

"We'll both go, share the burden between us." He laughed and pointed to the goo. "I wish I knew how to use that stuff, it could save us a long walk and a lot of trouble."

Selby laughed, more at ease. "I wish it would clean it for us, *I really wish it would.*"

They returned with Selby sneezing. "These damn masks let the dust in wholesale."

"Maybe that's what they have in mind." Saffry pushed open the door with his shoulder. "Some sort of—" He stopped. He came out hurriedly, shutting the door behind him.

"Something up?" Selby looked concerned.

Saffry shook his head, somehow he found the wall of the corridor and leaned against it, shivering. There was an icy feeling at the back of his neck and the muscles of his face seemed nerveless and rigid. He made a helpless gesture at the door and tried desperately to relax.

Selby looked at him in a puzzled way, opened the door cautiously and looked inside. "What's up? Everything is in apple pie—" His voice trailed away. Carefully he came out, even more carefully he closed the door behind him, his face was putty coloured. After a time he said. "They'll never believe us, will they?"

"No," said Saffry. "I don't think they will. I'm not even sure I believe it myself." Carefully he extracted the last cigarette of the week's ration, lit it unsteadily and tried to rationalise the situation. The beaker which had been broken was back in its usual place, undamaged. So was the tube of oil and the tube of sulphur, both with their correct contents. Carefully placed in the centre of the bench was the coffee container full of coffee and the bench was *clean*.

Saffry stared at the wall and didn't see it. Everything in the lab was as it had been before the mess. How? He was conscious of a multitude of goose pimples covering his body. According to Chinnock, the translation on the container read :—TO CLEAN AND REPAIR—FOR INTERIOR USE ONLY.

"I think," he said after a long silence, "we'd better make another mess, go away for half an hour and pinch each other to make sure we were not dreaming."

When they returned nothing had happened. The mess had spread slightly, covering the bench and dripping slowly to the floor.

Selby shook his head slowly. "Didn't work, did it? Lucky we didn't run straight to Hilton, he'd have slapped us straight in the psych' room." He frowned at the goo. "I almost believed we'd stumbled on something, I wish it had worked, *I really wish it had worked*. After all we can't both dream the same—" His voice choked to silence and he stepped back hastily. "Oh, my God," he said shrilly. "Oh, my God—look!"

Hilton wiped sweat from his face. "If I hadn't seen it for myself—" He looked uneasily at the spherical container. "What makes it tick—is that the correct word?"

"Selby and I spent two days discussing and experimenting. It's thought-receptive, responsive to a mental command but it's no use being vague about it, you have to think *at* it."

There was a long silence, all eyes looked, and somehow failed to look, at the container.

"Technology," said Prentis, finally. "I've been looking for a technology—what do you call *this*?"

"Suppose," said Palmer carefully, "we went to the power house and—er—directed our thoughts at it."

"No!" The force with which Leas' fist came down on the table made them jump. "For God's sake stop and think. If this city was mechanical we'd check circuits, trace controls, find out what did what and why it did it."

"I fail to see—" began Selby, mildly.

"You fail to see!" Leas' voice was harsh. "Have you considered, Mr. Selby, that the Martians may have guarded their city, that in activating it we may also activate the equivalent of automatic defence mechanisms."

Selby paled. "Sorry, I hadn't thought of that. I expect Mr. Palmer—" He looked about him. "Where is Palmer?"

They stared at each other. No one had seen him leave, all eyes had been fixed on Leas.

"He can't have gone to the power house," said Hilton. "He was here long enough to get Leas' warning, where else could he have gone?"

"My God, the library!" Saffry's chair toppled sideways. "Selby and I have a theory about that, just going to bring it up." He wrenched open the door.

In the changing room, Palmer's locker was empty, breather-mask, heated suit and sand shoes had gone.

Saffry struggled into his own equipment, panting. He had to stop Palmer before he got to the library—if it was a library. Palmer, obviously, had jumped to the same conclusions as he and Selby, unfortunately only the conclusions and not the implications.

Outside, the thin, ice cold-Martian air seemed to bite at Saffry even through the heated suit. Despite the urgency of the situation, the sense of endless drifting desolation struck forcibly at his mind. Mars was an empty sterile plain of bitter shadow or a huge naked room lit by a tiny bulb in a distant ceiling which never truly dispersed the darkness.

Dimly, about a hundred yards ahead of him, and nearing the excavations, he could see a blurred figure shuffling determinedly forward. Saffry cursed his clumsiness with the shoes; he seldom left the tunnel-linked domes of the project and he was not proficient in the shuffling walk adopted by 'outside' personnel.

He wasn't going to catch Palmer, he knew that but perhaps he could stop him before he began working inside the building. He was vaguely conscious of other figures stumbling out of the dome behind him but he didn't look back, there was no time. If he didn't get there and stop Palmer, God knew what might happen.

He blundered over the heaped sand surrounding the excavations and came to the first of the buildings, a tall, ridged, windowless construction which looked like an enormous beehive. His feet touched the rubbery-feeling surface of the Martian road and thankfully he kicked off the sand shoes and began to run.

He was too late, he knew that as soon as he entered. Palmer was already reaching up for one of the cubes which, strangely, was glowing faintly and protruding from the shelf. He was standing directly under the light the techs had fixed when the building had first been opened and his eyes, through the vision plate of the mask were narrow and intent.

Saffry tried to shout. "Don't touch it." But the mask choked his voice to an inaudible mumble.

Numbly, still stumbling forward, Saffry saw the other take the protruding cube in his hand. As he did so, the thin transparent covering rolled back like a withering leaf.

The chemist tried to leap the last ten feet, tripped and fought to regain his balance, feeling a sense of desolation as Palmer touched the exposed cube with his naked hand.

It wasn't pretty. Behind the face plate, Palmer's eyes suddenly dilated and screwed up. He tottered a few uncertain paces forward, tore off the breather-mask and stared unseeingly before him. Saffry knew he was dead long before the icy air with its near-absence of oxygen could strike the lungs. He stood swaying, face contorted into a mask of rigid muscles, froth creeping from the corners of his mouth, then he crumpled and fell sideways.

The medic leaned forward, both hands on the table, his face stiff and not a little frightened. "Palmer died of heart failure."

"Heart failure?" Hilton stared at the table.

"Primarily heart failure. There was severe haemorrhage of the brain, some of the neural fibre seems—" The medic hesitated.—"for want of a better description, fused, burnt out."

There was silence, Hilton drummed his fingers softly on the table and finally looked up. "Perhaps it's time we faced a few facts. We're trying to speed things up and we can't." He sighed. "We expected a technology, we expected recognisable thought patterns and culture but we found neither." He made a strange bewildered gesture with his hands. "I feel rather like a mediaeval alchemist trying to open a nuclear reactor. I'm just as stupid and the experiment is equally dangerous."

The telephone purred softly at his elbow and he lifted the receiver absently. "Yes?" A pause, he pulled at the edge of his moustache. "But there's not one due for nine months. How long did you say? Nineteen hours eh?" He laughed abruptly, harshly and without humour. "Let's hope it's one of ours." He replaced the receiver carefully and looked up. "Radar says there's a ship coming in, they're beaming but reception is a mess." He paused, staring in front of him. "Costs a lot of money to send a ship the long way, pre-apposition."

Prentis took out a cigarette, looked at it and put it back in its plastic tube. "Manwood," he suggested.

"He's the man they'd send, wouldn't they?" He grinned twistedly. "A man with a lot of pointed questions and an axe. It looks like the stall is over, boys, just as we were beginning to get somewhere."

Manwood was a stocky man with a square chin, a go-getter personality and small humourous black eyes. They were not humorous now. "You're all here I take it?" He did not wait for an answer. "There is no need to tell you why I'm here and I won't mince words. Earth is fed up, really fed up. In the twenty-five years this project has been under way, the total return is exactly one hundred and eighty photographs of excavated Martian buildings." He glowered at them. "Agreed you are not responsible for the earlier years but you are responsible for the last six. You are supposed to be a specially chosen team of experts, trained for the task, drawing literally fabulous salaries, and what have you sent back to justify yourselves, for God's sake?"

He swept his arm out angrily at the round, dust-coated window. "Out there you have the biggest find in history, a complete city of a race a thousand years in advance of our own. By now Earth should be benefitting from that discovery, new

drugs, new techniques, new applications, her culture should have leapt ahead."

He placed both hands on the table and thrust out his chin. "This project has already cost Earth one hundred and seventy billion credits. No civilised culture, no economy, can support an investment that big without dividends. I make myself plain?"

"Heads are going to roll," suggested Selby with unexpected calm.

Manwood glared at him. "You run ahead of me, sir. I'm going to get something out of this city if I have to ship every man back in public disgrace and start with another lot." He made an abrupt angry gesture. "I've received so many reams of meaningless reports that I hardly need a ship. I could have made a bridge of the paper and walked here. Earth wants something more out of this planet than paper and I'm here to see that she gets it. Back home we're sick to death of vague reports and long verbal evasions. Know what they're calling you on Earth? Not the Martian project. Oh, no, they call you"—he rolled the words over his tongue unpleasantly—"Project—Stall."

He squared his shoulders. "I'm here. I can't be stalled off. Now, gentlemen, if it's not too much trouble, what have you got to show?"

Hilton rose, his face unexpectedly hard. "We can show you a dead man," he said bitterly.

Manwood made a movement as if to step forward angrily then hesitated. Quite obviously he was shaken and, for the moment, unsure of his ground. "A dead man, did you say?"

Hilton nodded. "I'm sorry I had to break it so brutally, Manwood, but you were quite prepared to start the executions before you'd heard the defence. Do you think we've *liked* having to stall?" His quiet voice rose suddenly. "If you're investigating a new type grenade, you don't start investigations with a hammer."

Manwood had the grace to acknowledge the rebuke but he was still an angry aggressive man. "You have a point there, Mr. Hilton. I am, of course, open to be convinced by any evidence you care to bring forward. On the other hand, if the Martian culture is dangerous, why haven't you told us, man?"

Saffry rose. "I'm only the chemist here, but we haven't told you, because, without evidence, you wouldn't have believed us."

"Not believed you!" Manwood's voice was challenging.

"One cannot explain a culture which has no parallel with Earth's over an interplanetary radio," cut in Hilton quickly. "You would have had us all back as psychiatric cases."

"Are you prepared to back that statement with a logical outline?"

"Yes." Hilton's face was pale and remote. He withdrew a piece of paper from his pocket. "This is a message I could have sent but didn't. I wonder what you would have done on Earth if I had." He read from the paper: "The Martians achieved a technical culture without technology. They built cities, transport, artifacts and spaceships without mechanical aid." Hilton tossed the paper to one side. "Well?"

Manwood opened his mouth and closed it again, then he felt for the chair and sat down. "Can you prove this?"

"Not only prove it beyond doubt, but Mr. Saffry our chemist, has volunteered, at the risk of his life incidentally, to undertake an experiment which may solve the enigma of Martian civilisation once and for all."

Manwood looked from one to the other expressionlessly, slowly his brows drew down and his jaw, if anything, became squarer than before. "Very well, I'm open to a demonstration but I'll tell you all now, it had better be damn good. I've promised Earth a complete report within three days so don't waste four months talking about it."

Hilton smiled thinly. "Twenty minutes will do as a starter. Mr. Selby, show Mr. Manwood the container."

Selby did so and Chinnock quoted the endorsed translation.

Hilton waited until Selby had placed the container on his desk then said: "Watch please." Carefully he withdrew his old fashioned fountain pen from his pocket and broke it in half, letting the ink form a small black pool on the polished surface of his desk.

Saffry added a bag of sand and broke a small bottle of sump oil from one of the exterior crawlers in the middle of it. "Ready, Selby?"

Manwood half rose, his face red with anger. "What the hell are you fools playing at—conjuring tricks?"

Hilton said: "Shut up," so sharply that Manwood sat down muttering angrily.

Only Hilton, Selby and Saffry knew what was going to happen, the others craned forward.

“My God !” It was an exhalation and Manwood’s face was suddenly colourless. He watched the goo in the container rise in the middle, undulating and flow over the side. He watched it spread across the desk like an obscene and vibrating jelly and somehow flow over the ink, the sump oil, the sand, the glass and the broken pen. He saw the thing draw itself up into a lump, grow slender, hair-like tendrils which waved and reached into an orifice appearing in its side. The pen was withdrawn first, complete, then a small glass bottle unbroken and filled with sump oil. The thing shivered, the tendrils wilted and seemed to melt and, still shivering, flowed back across the table and into the container.

Manwood fought down an impulse to get up and run from the room. The thing had not only separated the mess chemically, it had repaired the receptacles and refilled them with the correct fluids. The untidy heap of sand had vanished and, being useless, had probably been absorbed. How did it know it was useless ? Good God, it said to *clean* and repair, didn’t it ?

He watched Hilton pick up the pen with a hand which was none to steady, write with it and return it to his pocket. “You see ?” His voice was as nervous and unsteady as his hands.

Manwood swallowed twice, breathing deeply, trying to get a grip on his nerves. “What the devil is it ?”

“I wish to God we knew.” Hilton’s voice reflected something akin to despair. “Mr. Saffry and our Medic think it’s a constructed organism, some sort of pseudo-life. We know it’s responsive to thought and fulfils its purpose on receipt of a direct mental order but more than that—” He spread his hands helplessly.

Manwood stared at the container, unseeingly. Pseudo-life with an intelligence confined to its primary purpose and, somewhere inside it, a built-in workshop and laboratory. What sort of people were these Martian’s, for God’s sake ?

Hilton rose. “Would you care to come along to one of the excavated buildings for a further demonstration ?”

“Yes—er—yes, if you wish.” Manwood rose, noting with detached unease, that his legs felt peculiarly weak and unsteady. He had come to Mars to bring his personality to bear on the project, to shake up, vitalise and, if necessary, depose but not, definitely not, take part in a nightmare.

Saffry sat in the fold-chair and sweated. At the time, with the knowledge that Manwood was on his way, the experiment had not only seemed a good idea but reasonably safe. It no longer seemed a good idea and the undertaking had grown in his mind to something positively suicidal.

The long narrow 'library' with its stacked shelves of green jelly cubes looked, despite the daylight tubes, positively sombre and reminded him unpleasantly of some family vaults he had once visited.

When Hilton and Manwood came in, followed by the rest of the team, sweat had fogged his face plate so much that he was unable to distinguish one from the other.

Someone plugged in a com' lead. "Sure you want to go through with this?" Hilton's voice.

Nod, nod, jerkily. "Yes—yes—sure." What an absurd lie! Was he completely insane? Somehow he pulled himself together and stood up. Strangely, his momentary panic was replaced by an almost detached calm. Carefully he recalled the words he had rehearsed and began to repeat them forcefully in his mind.

There was a soft orange glow from one of the shelves and one of the cubes slid slowly outwards for a full three quarters of its length as if drawn by invisible hands.

Steadily he walked towards it, reached up his hand and lifted it out. The transparent covering rolled back, leaving the cube exposed.

Now! If he hesitated his nerve would fold up like an undermined scaffolding.

He laid his hand firmly on the cube, keeping his mind, as far as possible, empty. For a second or so nothing happened then suddenly his arm tingled . . . Insane colours danced briefly before his eyes and the breath rushed from his lungs. For an uncountable time he seemed to hang in soundless emptiness, trapped like a fly in amber, with the inside of his head being twitched and shaken and slowly growing too big for his skull. Then he began to fall and darkness engulfed him completely.

He regained consciousness surrounded it seemed by a sea of faces. A voice said. "Thank God he's alive!"

"Stand back, Mr. Hilton, please." Something pricked his arm. "You're all right, Saffry, go to sleep, all you need now is rest . . ."

Manwood banged his fist on the table. "I don't like the way you're handling things at all, Hilton. Half the time I'm in the dark and I don't even know what you're trying to *prove*."

Hilton's mild blue eyes met his, untroubled. "Neither do we. The experiment was Saffry's own idea but he kept us pretty much in the dark." He rose as Saffry entered. "Better now, old chap?"

The chemist nodded. "Almost back to normal, thank you." Two days in the sick room had restored most of his colour but his eyes still looked sunken and, in some indefinable way, haunted.

Hilton waited until he was comfortably settled in his chair. "Mr. Manwood is a little impatient, perhaps you could explain what you had in mind when you went to the library."

"Yes, yes, of course." Saffry leaned back a little tiredly in his chair, conscious that he was commanding more attention than at any time in his life yet curiously unmoved by it. "I was working partly on logic, partly on hunch." He paused. "I can't remember who it was who suggested that the room full of cubes was a library but, after the goo turned out to be responsive to a thought impression, it seemed pretty obvious that the Martians were primarily telepathic. It occurred to me suddenly that if that was the case, the 'library' of a telepathic race would contain not recorded sound, pictures or even micro-films but a series of telepathic impressions. In fact, when Selby and I discussed the matter, we began to refer to the objects, almost without thinking, as 'thought cubes.'"

"You mean," said Manwood, with uncharacteristic diffidence, "you suspected that the Martians had found a way to inscribe a telepathic impression into these objects."

"They have." Saffry's voice had something final about it.

"Yet those impressions killed Palmer, why didn't they kill you? Not that I'm denying they nearly did, just what saved *you*?"

Saffry shrugged slightly. "Palmer arrived at the same conclusion as myself and Selby but he was too anxious to follow up. He ran at it like a bull at a gate without pausing to consider the possible repercussions. In the first place, we are not a telepathic race and can only receive the impressions in the cubes by direct contact. Secondly, and far more important, not only were the Martians far in advance of our own civilisation, their conceptions, thinking processes and attitudes of mind were wholly alien to our own thought patterns. I should

imagine that Palmer, anxious to gain knowledge and air it before anyone knew, selected a subject far beyond the capacity of his mind to receive."

"My God, it was too much for his brain." Manwood was suddenly putty-coloured. "But how the hell did he *get* that particular subject?"

"Assuming that the 'books' were sensitive to a thought impression, he concentrated on the subject he wanted. The cube, or its covering, is sensitive, and reacts as you have seen."

"What a conception," said Chinnock, in a thick voice. "But I still can't understand how you got away with it, Saffry."

"I picked my subject rather carefully, but, perhaps, there, I took the biggest chance of all. You see, I was working entirely in the dark, I didn't know what the Martians were like, they might have been constructed like robots, hatched like eggs, or come into full maturity with cellular fission. It was a chance I had to take." Saffry paused and smiled thinly. "I concentrated on General Information—for *an infant*."

There was a long uncomfortable silence, finally broken by Hilton. "And what the Martians simplified for an infant, laid you out cold for seven hours, by God!"

"But you learned something, didn't you? You must have learned something." Chinnock was on his feet, tense and excited.

"Something—yes—something." Saffry ran his hand tiredly across his eyes. "The Martian viewpoint is so totally alien, their conceptions so encompassing that the human mind can only take a little of what it receives. I know where they went and why but even that confounds our own science and gives a totally different conception of the universe."

Chinnock, obviously restraining a raging impatience, said, with unnatural calm: "Couldn't you explain just a little more."

Saffry smiled with faint bitterness. "They moved on, that's all, they mentally outgrew their home."

"Ah, a population problem, they outgrew their home and had to seek another sun system." Chinnock was nodding to himself knowingly."

"No, I don't mean that at all." Saffry sighed. "That's what I mean by new conceptions and an alien viewpoint. According to their conception, the universe is like a pond—

that's the nearest I can get to it—we're not even in the water yet, we're still in the sludge at the bottom."

"That's a spiritual conception, surely?" Hilton was frowning.

"Is a man educated in a slum and becoming conscious of his environment a spiritual conception as you understand it, Mr. Hilton? The nature of the universe varies, as the race progressed from Martian to super-Martian, they perceived their environment and moved on to a place in the universe more suited to them."

Hilton said: "Yes, yes, I see now." He looked withdrawn and thoughtful. For a brief instant, he thought he had seen something in Saffry's eyes which was not quite human. But of course, Saffry's mind had been altered slightly to receive a Martian thought impression and, of course, at that moment the chemist had been explaining things as a Martian.

Saffry clinched the matter by explaining it. "I wouldn't touch another cube for a hundred million. I'd lose my identity. I'd be thinking partly like a Martian. My thought patterns, at times, even to myself, seem a little peculiar."

"Can't you tell us something about the city?" It was Manwood now. "I've got a report to make tonight." His aggressiveness had gone and he was looking worried.

Saffry leaned back wearily in his chair. "You can activate it if you like, it's quite safe. The goo in the power house is a sort of matrix for receiving and transmitting energy to the rest of the sector. It's an energy eater, you see, and its function is to absorb solar or cosmic radiations and transmit that energy as food."

"Food!" Hilton was pale.

"Yes, the Martians were organic engineers, they constructed artificial life and set it to work for them. The city is suspended now, sleeping, but it can be awakened if you wish."

"You mean we can actually get the Martian machinery working?" Prentis, the technician, half rose, his face eager.

"It isn't machinery as you understand it. The city, the buildings, everything are sentient. The buildings, once activated, are adaptable, adjusting their temperature and functions to the mental commands of the occupants."

Prentis sat down heavily. "I was looking for a technology—I could have looked forever."

Saffry smiled faintly. "But it is a technology, Prentis. The Martians have achieved with pseudo-life what we fumble

at with machines. They've simply constructed organic thought-responsive mechanisms and put them to work."

Prentis put his head in his hands. "Organic engineering, goo mechanisms. You won't find me in a sentient building, it would be like walking into someone's stomach. I might get digested." He almost glared at the chemist. "How the hell can there be a technology without a wheel? How could you move things?"

Saffry smiled a thin amused smile which was not quite human. "It seems to me Mr. Prentis, that you move around and function most efficiently without one."

Manwood, nodded as if agreeing with the remark and his bombast has gone entirely. "I apologise. I apologise to you all. I never dreamed I'd find anything so alien as this. It will take us years to clear up." His face blanked suddenly. "Oh, God, I've got to send that report." He looked helplessly and almost pathetically from one to the other. "What'll I say?"

"Well," Hilton's smile was almost beatific, "I'm sorry to say this but it looks as if you'll have to stall—"

*Philip E. High*

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*If we were given the opportunity of living part of our life over again—picking out some turning point where the probability lines diverge—how much difference would it make in the long run? How much Free Will are we allowed during a lifetime?*

# THE OUTSTRETCHED HAND

by ARTHUR SELLINGS

---

"Ah, good morning, Mr. Grant," said Dr. Meyer. "I'm glad you've come."

"Good morning," said Grant curtly, sinking indifferently into the proffered chair. "I can't honestly say I'm glad to be here!"

"That's understandable," the little psychiatrist said softly.

"But since I'm here, let's get on with it. Ask me if I was jealous of my father."

Meyer smiled. "Why should that have anything to do with your attempting suicide?"

"Nothing, nothing at all. But that's the way your sort goes to work, isn't it? Like lawyers—if you didn't complicate things there wouldn't be enough work to go round. Still, go ahead. You won't find out. I could tell you, but why should I? And there's nothing you can do for me. I'm only here because the court made me."

Meyer waited patiently for him to finish, gazing upon his patient with soft brown eyes; then he said, "Of course, Mr. Grant."

"And don't think," Grant went on, almost shouting now, "that because the court sent me I'm any charity patient. You give me your bill when you're through, and I'll pay you."

"Thank you," said Meyer evenly. "I could do with more patients like that. But that isn't the important point. If you

don't co-operate I shan't be able to get anywhere at all. On my report I shall have to write *Patient Unresponsive to Treatment*, and you, Mr. Grant, will be committed to a mental home. Not by me, but by the law, for your own safety. Is that quite clear?"

For a long moment Grant gazed at him sullenly from beneath lowered brows. Then his features seemed to waver, and he brought his hands up to cover them.

After a while he lowered his hands and said, "All right, I'm sorry. I'll play it your way. That tough guy isn't really me."

"I didn't think it was. It's called a *personna*—a mask. We all wear them."

"But fixed on permanently?" said Grant bitterly. "That's what's wrong with me. I—" He stopped. "I'm sorry. You want to ask the questions."

"No, you tell me. Get the idea out of your head that we psychiatrists want to complicate issues. Of course, it may well be that your account is a substitution for a quite different problem, but we shall see. Go ahead."

"All right. But it will show you just how false that tough guy who walked in here really is. The prosperous businessman . . . the go-getter . . . it's all wrong. Do you know what's really there? Someone who betrayed himself. Someone who wasted his life."

"But nobody's life is wasted." Meyer glanced at the folder in front of him. "Printing machinery agent? That's surely a valuable service to the community?"

"Spare me," said Grant, lifting his hand. "That sounds like too many trade dinners."

"But it's true, isn't it?"

Grant shrugged. "For those who think it is. But not when you were meant to do something really worthwhile."

"Such as?"

"Well, to be an artist, for instance."

"I see. But isn't that the inevitable consequence of taking one path—feeling sometimes that it was the wrong one?"

"I don't feel—I *know*. And this isn't just some passing feeling. It's been growing on me for years. Once I was so busy getting on in business it didn't trouble me much. But now I'm succesful I get more and more time to look round at the world I've made myself. And I'm sick of it, the emptiness, the sheer bloody pointlessness of it."

Meyer nodded sympathetically. "You must have wanted very much to be an artist. What stopped you if it meant so much to you?"

Grant shrugged. "What stops a plant growing in rock? No one thing stopped me. The main thing, I suppose, was that my family was poor. Really poor, I mean, wretchedly poor. My father wasn't well equipped for work. He used to be ill often. At least, that's what he called it. The only reason he went to work was to get money to buy drink so that he could be ill again. He wasn't interested in anything but drink. He didn't understand the difference between a painting and—well, anything. It just had no meaning for him, except that it cost money for paints and things. And my mother—well, she worked too hard to have much time for anything else."

"But at school weren't you encouraged?"

"Hah! That's a good one. Did you ever go to a council school—one of the old fashioned kind that smelt of yellow soap, with overcrowded classrooms and underpaid teachers? We used to paint flowers, and chairs piled on top of each other. The teacher's idea of art was making copies. I can see him now. He was deaf, and wore big black boots, and had hairs growing out of his nose. I suppose he thought he was doing his job. But I hated him. I tried once to paint a flower as *I* saw it—as *I felt* it, and he marked me . . . one out of ten. The one was because the colour was well laid on. That was what he said when he held it up to the class, and the other kids all laughed at it."

Grant drew a hand across his eyes. It was trembling as he lowered it. "All those years ago, and it should still hurt to speak of it."

"Such things are planted deep," said the other softly.

Grant's hand made a curt gesture. "Oh, if it had only been that, it would have been easy. You find ways round. After that I used to paint the way he wanted it—but never as well as I could. You understand, I didn't want him to preach my conversion to the other kids. That would have been even worse. But at home I went on drawing and painting the way I saw it. I put my heart and soul into it. I knew I should be a painter when I grew up. I didn't have any other thought. No dream of being an engine driver or a prize-fighter for me. I never told anybody because there was nobody to tell. But I was going to be a painter, all right."

He sighed, a sigh that seemed to echo down the silence that followed as if down all the years between.

"But I didn't. When I left school I had to go straight into a job to bring money into the house. I used to save up to buy materials for painting, but there always seemed to be something else the money had to go for. The painting got less and less. Until in the end . . . it just stopped. Oh, I don't remember regretting it at the time. I just let it drift. I was too busy struggling out of poverty. I was sick of poverty, the sight of it, the stink of it, the foul taste of it in my mouth. I told myself that I could always pick up my painting later. But I never did."

"But you're only—what is it? Fifty-four. It's not too late now, is it? After all, Gauguin and Grandma Moses weren't exactly youngsters when they started."

"But you don't know. The vision's faded now, crushed out by forty years of buying and selling, of being smart, hard-headed, quicker on the deal than the next man. Oh, don't think I haven't tried. I've tried for hours, days, weeks on end. But the damage was done forty years ago. I had the gift then, the vision, and I killed it. And what makes it worse is knowing that in different circumstances I could have succeeded. But it was all in a vacuum. If I'd only had one word of encouragement, one voice to tell me that it was worthwhile—but I didn't. It's—it's not easy for a kid to keep hold of a dream when all the world that he knows says it's stupid."

"I see," Meyer said simply.

"So that's why you can't do anything about it," Grant went on bitterly. "You or anyone else. When a man's betrayed himself there's nothing he can do. To someone else you can make amends perhaps. But not to yourself. You're the murderer and victim in one body."

Dr. Meyer leaned back in his chair, looking at the ceiling, saying nothing.

"So there it is," said Grant. "If you want to make something else out of it, go ahead. But I know that's the truth. And that's why there's only one solution—the one I tried and botched."

Meyer brought his eyes down and back to his patient.

"I think you're right," he said deliberately. "On the first point, that is. Suicidal melancholia has been caused by much slighter things. But not on the second. There might be another solution. Say—say I were to give you the chance of taking the right path?"

"But I've already told you. It's too late now."

"Now, yes. But you said that all you needed was one word of encouragement. How would you like to go back and give yourself that word?"

Grant gaped at him. "Look, if that's a new kind of shock treatment you can forget it."

"No, I mean it."

"But that's not psychiatry. Its—*time travelling*!"

"Exactly."

"But that's fantastic."

"No, I assure you. I can send you back to yourself in your youth."

"Where's the time-machine?" Grant said, looking round mockingly.

"Do you need a machine to get from today into tomorrow? Your time line is your own experience. You make it. You can retrace it. I can give you that power by narcosis."

"Drugs?"

The psychiatrist nodded.

"But how could I alter the past? I couldn't go back bodily just by the action of drugs. So how could I alter anything?"

Meyer smiled. "Surely you, Mr. Grant, will recognise that the world is more than bodily, than material. You once tried to paint a reality that was more than one of appearances. And time is both more and less than real—super-real, in fact. Can you deny the reality of memories because there is no way of measuring them physically? Or your hopes and fears of tomorrow? If yesterday is only a dream now, what was it yesterday? But I couldn't start to explain it all; it would take far too long. Besides, I don't understand it properly myself. All I ask is that you believe me."

Grant looked into the steady gaze of the psychiatrist, his fear of being mocked dissolving into sudden hope, then into fear again—a different kind of fear.

"But I know the contradictions in that. I remember once reading an article about the paradoxes involved in any kind of time-travelling. If I went back and changed my course, then I wouldn't have come to you in the first place. So I wouldn't have gone back. So—repeat and repeat. It's a circle."

"Not at all. You *have* come to me. If you go back you will merely be making a loop back over ground you've already travelled. If you are successful your changed path will go

on from there. This meeting will have happened on the path that you retraced, not on the one you will take from then on."

"But—you mean that I, I as I am, will come back here? That I shall have two selves? One who came here and one who had no need to?"

"No, you as you are will become you as you are to be. There is only one you—as an entity, that is. Except when, directed, you contact your younger self. But even in ordinary progression through time we have the power to change our lives."

"But—but if I went back and changed my own direction, wouldn't that change everything else? Slightly, perhaps, but the consequences might be enormous."

The psychiatrist spoke almost as if to himself. "We think we're so important. We each think the universe stands or falls by our actions."

"For want of a nail—"

Meyer smiled. "Don't worry about it. I don't think any battles will be lost or won—except your own."

Grant suddenly laughed nervously. "But it all seems so fantastic. If this succeeds, that means you will never see me again. That means that I won't be around to pay your fee. Maybe I shall be living on the other side of the world, even. Isn't that so?"

The doctor laughed. "In that case you'd better pay me now."

Grant drew out his chequebook and bent it open. Then he stopped. "But—this other me probably won't have an account at the same bank. Or will he? Hell, this is confusing."

"I was only joking. I think we'll let the fee take care of itself. Frankly, the therapy is new and the chance to use it is its own reward. You may have gathered by now that the court's placing you under my care was not entirely accidental. Anyway, I gather you're willing?"

Grant looked down and laughed wryly. "I suppose that means I am. The complete businessman, you see. His chequebook's his bible."

"Good. Just get on the couch, will you, and pull up your sleeve."

Yes, it was just as he had remembered it. The school was exactly the same. It looked rather smaller now than it had then, but that was only natural, wasn't it?

He lingered by the little shop that faced the entrance. The window was filled as it always had been with cheap and gaudy sweets. He looked at his watch. It was twenty-five past four, five minutes before school came out. On a sudden impulse he ducked into the shop.

Yes, it was old—what was his name?—Haggerty, just as he remembered him. This was no illusion. This was *real*. He had asked for a quarter of rock before an alarming thought occurred to him. Mr. Haggerty held the bag out, looking slightly puzzled as his customer spread his small change in his hand, scrutinising each coin. Grant breathed out with relief as he found a coin old enough to be legal tender. *For the want of a nail*, he found himself thinking as he took the sweet-stuffed bag. The sudden thought he'd had—that most of the money in his pocket hadn't been minted yet—brought the fantastic nature of what he was doing into sharp and soul-shaking focus.

Yet it was working! He popped a piece of the rock into his mouth as he came out of the shop. The strong sickly taste was real enough. He wondered now how he could ever have thought the stuff worth eating.

And then school came out, noisy and tumbling. Grant stepped out of the path of the avalanche and waited in the shadow of the school wall.

The young Jimmy Grant came out towards the end of the crowd, walking on his own. It was like somebody stepping out of a dream. The elder Grant realised with a shock of surprise that he wouldn't have recognised himself had he not been deliberately searching. *This* kid he would have passed on the street and never known it was himself. Even now, it was chiefly the brilliant green jersey his younger self was wearing which told him that he was right. It had come in a parcel from a charity organisation. The memory of how he had hated to wear it came out of this past, this present.

Grant stepped forward. "I say."

The boy turned. "Yes?"

Grant suddenly felt very shy. "Er—can I walk along with you?"

The boy looked at him suspiciously. Grant swore silently at himself for the clumsiness of his approach. Kids were warned not to speak to strange men. His mother had warned *him*, this boy who turned now and walked down the street that Grant remembered so well, this man who paced after him and walked along by his side.

"It's all right," he said, striving to control his nervousness. "Here, would you like a sweet?"

The boy looked at the proffered bag, and temptation was too great. He'd never been able to afford sweets very often.

"Thanks," the boy said. "Oh, these are my favourites."

"I know," said Grant, and bit his tongue as the boy looked at him oddly. "I mean, they're my favourites, too. Have another. Have the bag."

"But if you like them—"

"That's all right. I can get some more."

By the time they reached the corner of his street, Grant had brought the boy out about his painting. He had to prompt him, asking about his hobbies, suggesting in the end that perhaps he painted.

"How did you guess that?" said the boy, his eyes round with surprise.

"Oh," said Grant, feeling suddenly ashamed, as if he had just been caught cheating. "Well, you look as if you might. You look the sort of boy who'd do something creative like that." He told himself desperately that this wasn't cheating, but the reverse—the correcting of an injustice.

"Are you a painter?" the boy said excitedly.

"No," he said, and then his words like a voice coming from a great distance. "But I always wanted to be. All my life I have regretted that I never did."

"Why didn't you?"

"Because—because I thought other things were more important. But nothing's more important, nothing in the whole world, you understand. Even though it may be hard, even though people laugh at you."

"You really think that?" the look in the boy's eyes of delight and gratitude made Grant turn away abruptly.

"Is—is something the matter?"

"No, it's nothing," said Grant, turning his face back to the boy. "I'd like to see some of your work. Will you show me?"

The boy flushed. "Oh, it's not real painting. Not yet, I mean."

"Well, you're only young yet. But you will let me see it, won't you?"

"My father's home. He doesn't like strangers."

"Bring some of your paintings out to me, then. I'll wait here on the corner."

"All right," said the boy.

He came out a couple of minutes later with a sheaf of papers under his arm. Grant took them with a hand that he couldn't stop from trembling. These paintings, his own precious attempts at self-expression, had long since been laid aside, forgotten, destroyed. And now—

He opened one out.

"Oh," he said.

The boy looked up at him, sudden disappointment tugging at the corners of his mouth.

"Oh," said Grant again, altering the tone. He riffled through the others. They weren't nearly as good as he'd remembered them. But wasn't that inevitable—the contrast between memory and reality? They weren't bad for a kid of twelve, were they?

"Don't you like them?" said the boy anxiously.

"Why, yes. I think they're excellent," Grant was conscious again, even more keenly, of a feeling of guilt. He thrust it aside. "You must keep on. You have talent."

At that moment a voice came from a window above—a familiar voice. It was a familiar face which looked down at the pair of them. Grant looked up into the face of his long-dead father. The boy looked up, too, apprehensively.

"What you doing down there?" the father called roughly.

"Just—I'm coming right up." The boy turned away from Grant.

The father gave one narrow-eyed look at Grant and withdrew his head from the window.

"Goodbye," said the boy. "I have to go."

"All right," said Grant. Then with sudden urgency, "But remember what I told you. You must go on painting. You *must*! I'm only—only travelling through. I won't be passing this way again. So promise you'll go on. *Promise*?"

"I promise," said the boy. "Cross my heart." As he passed into the darkness of the tenement hallway he turned and said, "Thank you for the sweets." And then he was gone.

Grant stood looking at the hallway for a moment, then turned away. He walked out of the street, out of the past, into the darkness of futurity . . .

He looked up into the soft brown eyes of Dr. Meyer. It took him some seconds to orientate himself. Then—

"But I shouldn't be *here*," he said wildly, sitting up on the couch. "It was a trick!"

"Didn't you go back, then?"

"Ye-es. No. Hell, I don't know. I seemed to. But it didn't work. I'm just the same as I was before."

"Are you sure?"

Grant shook his head confusedly.

"Your memory," said Dr. Meyer softly. "Look back in your memory."

"Wait a minute," Grant breathed. "Yes, that's right. It's strange. It's like looking at something from two angles at once. One angle is clear because it just happened, the one in which I met a kid coming out of school. The other is a memory from forty years ago, the memory of being stopped by a stranger. A stranger who offered me sweets. Both memories are there." He trembled. "It's eerie."

"That shows it was no trick, I hope."

"Maybe. I don't know. Look, it might easily have been something different. Some drugged state in which I was just talking to myself in a dream, somehow burying that other memory deep down. It seemed real, but—"

He stopped suddenly. He ran his tongue over his lips, and he could still taste it lingering there, a sickly sweet taste.

"Yes?"

"I don't know. Maybe you're right. But why haven't I changed? Apart from that memory in my mind I'm the same as I always was. I seem to feel that a few details are different. But nothing important. They can't be, otherwise I wouldn't be here."

"I had a patient once," said Dr. Meyer. "He suffered from a persecution complex. He complained that he was a frustrated genius."

"What the hell has that got to do with me?"

The doctor smiled. "I told him there was no such thing. No man can say 'I am a frustrated genius.' A genius could say, 'I was once frustrated,' but that's all. It's the nature of genius that it can't be frustrated."

"But I still don't see what that—" Grant stopped. "You mean that even with that encouragement I didn't have it in me?" He met Meyer's eyes and sagged. "Yes, I remember now. I remember how bucked I was with that stranger telling me to go on. And I promised him I would. Promised *myself*." He clutched the psychiatrist's sleeve. "But I *must* do it. Can't you send me back again?"

"I could. But—do you think now that it would really be any use?"

Grant hesitated, framing his lips to speak. He shrugged, then shook his head dumbly.

"We wouldn't change the universe so much," the psychiatrist said quietly, "even with a second chance. Now do you see? One still makes the same mistakes, takes the same wrong turnings. But they're not mistakes. And they're not wrong turnings. They're each the only ones we *could* take."

Grant jerked up his head. "But that makes us no better than monkeys on strings. It means we have no free will. Yet you yourself said we have the power to change our lives."

"We *do* have the power. Within the limits imposed upon us by our own natures—and the limits we impose upon ourselves. If we can transcend those limits we *did* transcend them."

"Ye—es, I believe I see that." Grant rose unsteadily to his feet.

"How do you feel?" Meyer asked him.

"Sick. Sick and sorry." But he smiled wryly as he said it. "The funny thing is—I don't feel as I did. I feel—I don't know—as if a burden's been taken off me. Yet, when I came in here, I only believed I'd failed myself. Now I *know*. Because I promised myself. In actual fact I promised myself. That ought to make it worse, surely. Yet somehow I feel better."

Dr. Meyer put his hand on Grant's shoulder. "You played out your guilt, that's all. You thought you had promised yourself. You felt guilty because you had failed. You know now that it was an impossible promise to keep, anyway."

Grant suddenly laughed.

"You knew that. That's why you weren't worried about the fee. You knew I'd come back just the same."

Dr. Meyer looked at him with a twinkle in his eye.

"Yes, I knew. As I told you, it's a new therapy. But you weren't the first."

"It was the same with the others, then?"

The psychiatrist chuckled now. "There's only been one other so far. But it was exactly the same. You see, there was once a boy who dreamed of becoming a concert pianist.

"He became a psychiatrist."

Arthur Sellings

*Vast strides are being made in the field of genetic research and this month's article discusses many current aspects. Kenneth Johns even offers a possible solution to Man's ultimate hope to colonize the stars—by 'deep freeze' tactics, a method often used by science fiction writers.*

# BIOLOGICALLY SPEAKING

by KENNETH JOHNS

---

Biologically speaking, *Homo sapiens* is not a particularly stable genus. With mutations springing up left, right and centre from the miniature missiles ejected by dying radioactive atoms and cosmic ray nuclei from space, only a dynamic equilibrium in which the bad die young and do not reproduce themselves saves the human stock from disintegrating into sub-families of mutant monsters.

Often the results are so subtle that we alter the balance and only realise it long afterwards. One remarkable instance—yet typical in its way of the whole process—occurred in Africa with the heredity trait known as sickle cell anaemia.

A large part of the population of Africa suffers from an alteration to the genes, in that part of the haemoglobin in the blood was changed. This change means that when the blood cells are starved of oxygen, these haemoglobin cells contract into typical sickle shapes and become damaged. This mutant type of haemoglobin led to anaemia and was, therefore, a bad mutation that should have bred itself out of the human race.

So much for the theory. The fact was that half the humans in Africa had this 'bad' mutant trait. There must, therefore, be some valid reason for its retention. It was eventually realised that sickle cells were more resistant to malaria so that the disadvantage of anaemia was more than offset by the increased resistance to malarial infection.

Now that malaria, under a world-wide onslaught, is passing under control by means of widespread use of insecticides and total warfare on its mosquito carrier, sickle cell individuals no longer have an advantage—so, slowly, the tide will turn towards the predominance once again of the usual haemoglobin cell.

If this delicate juggling with the basic structures of life can occur here, what fantastic variations will face us when faster-than-light drive enables Man to fan out to the stars and try to colonise planets which aren't *quite* like Earth. Planets which are so obviously un-Earthlike and hostile might prove, eventually, to be easier to handle. Maybe a dozen or more generations will pass before some latent factor is brought out, already disseminating its changes through the colonists' genes.

Man's body is a bomb, with the genes as touch papers—and there are plenty of lighted matches in the Universe.

But, equally, Man is a unique animal—at least on Earth—and has now the ability deliberately to alter his own body, mind and genetic material. For better or worse, we may soon be able to duplicate the societies envisaged in *Brave New World*, *Limbo 90* and "1984." In some instances, as so often happens when facts take over from fiction, it has already been shown that we can go beyond these dreams.

Subliminal advertising on TV is a typical and characteristic way of utilising this idiot's peepshow on some showings today—but does not in itself seem to be particularly efficient. A far more direct method—the push-button, pleasure or pain drill, has been shown to be far more effective and perfectly feasible far beyond the lengths so far attempted.

First tried out on rats, the system calls for a miniature electrode to be fitted into the pleasure centre of the brain and connected to a tiny plug permanently screwed into the skull. A small jolt of DC current sends the animal into ecstasy—and the rat is immediately an addict. Rats so fitted were provided with a button that, when they pressed by their paws, gave the

necessary pleasure-shock. They preferred this to eating and sleeping. One rat punched his button 50,000 times in twenty-four hours and was still going strong when he was unplugged to fall asleep at once, exhausted but happy.

Taking this one step further, scientists fitted tiny radio receivers under the rats' skins so that their electric shocks could be remotely controlled by the experimenter—and then used the pleasure shocks as rewards for learning. The rats learned faster than they normally did.

But then electrodes were fitted into pain centres in their brains. Under this stimulus the rats, grimly and frighteningly, learned even faster.

Thus provided comes pre-packaged the blueprint for a truly totalitarian society. A miniaturised radio receiver and two electrodes embedded in the brain of every adult would make them happy, contented members of society—or else. If you've never known continuous pain you'll never understand the punishment that could be meted out to recalcitrant citizens at the mere pressure of a button.

An H-bomb war seems almost clean in comparison with such a society.

In contrast to these morbid extrapolations of current scientific research, the bright side of the coin is shown in the new-found ability to build an electronic sense into a human body and connect it directly to the brain. The gadget is simple: just a few turns of insulated silver wire wound around a one inch long iron bar and the whole embedded in plastic. This is inserted into a muscle and the coil connected to a nerve ending. Now all that is needed is a coil held near to the skin above the buried coil and an input signal and electronic amplifier.

The system is used to replace completely destroyed human ear mechanisms—damage sustained for example by surgery or streptomycin—on a straightforward linkage. Sound impulses are picked up by a microphone, the resulting currents amplified and pushed through the external coil, the varying magnetic field so produced induces corresponding currents in the buried coil and so excites the auditory nerve.

The only apparent snag is that the patient has to relearn the meaning of sounds—but he is recompensed by the extension of his auditory range up to 40,000 cycles per second as against the normal ear reaction up to 15,000—we do not normally react to the supersonic sounds above this.

A further step could be taken by connecting a similar coil to a phrenic nerve and imparting an impulse every four seconds, thus stimulating breathing in the paralysed and doing away with the current iron lungs.

What also may be possible in the future—assuming, that is, that anyone would so desire—would be to take a baby and replace all its senses by electronic senses, connect it to a computer, train it with pain-pleasure impulses—and you've created yourself an intelligent, living machine to run a factory.

But even this is clumsy engineering to what may be done. Let's go further back into the basics. If the present human model does not quite fit society's requirements, they'll just use a little biochemical engineering and alter the foetus after conception. That will probably involve manipulation and growth of the ova in vats in artificial media,—remember *Brave New World* where even the word 'Mother' was an obscenity?

It is now sixty-eight years since the first transference of fertilised ova from one rabbit to another followed by successful birth of the young. Recently, scientists have taken this two stages further. One group arranged for fertilised rabbit ova to be shipped from Massachusetts to London by airliner. Kept for thirty hours in serum held at  $+10^{\circ}\text{C}$  in a vacuum flask, the ova were successfully implanted into the London rabbits.

Whilst successful in their efforts in deep freezing spermatozoa, the scientists failed completely to store ova at sub-zero temperatures.

However, the scientists have been able to grow fertilised mice ova in a completely synthetic liquid. Growth continued up to the point where the ova need to attach themselves to a womb—and they were then transferred to a foster mouse, from which they were eventually born as normal young mice.

Attempts to grow embryos beyond the point where they require attachment to a womb demand exceptionally expensive equipment and rigorously sterile conditions and so far there has been very little success. But if the need was great—if some sudden catastrophe or challenge arose to spur the quest of science—there is little doubt that a crash programme could solve this and all the attendant problems.

Deep freeze storage of ova and spermatozoa could enable Man to colonise extra-solar systems, even employing less than faster-than-light drive speeds. During the long journey, the quiet vaults could preserve a reservoir of 'normal' human life

to reinvigorate those who may have crewed the ship—or, more graphically, such a store might be needed to restock the Earth if our planet was seared by mutant-making weapons.

These are the ways in which humanity might be made to dance to order, to be disciplined and marshalled, by pain-pleasure electrodes in the brain, by subliminal pressures. These are the ways in which scientists are attempting to alleviate the hardships of the deaf and the paralysed. These are the ways in which, looking far into the future, methods might be found for preserving the race.

But what of the current experiments—on animals—that might be perverted actually to change Man himself?

Science fiction has long speculated upon men like ants—but what is being done—today—on this and allied fields?

One of the characteristics of Man is his dissatisfaction with practically every aspect of life—whether it be society or physical shape. So, incorrigibly, he attempts to change both.

How successful he has been with shape can be seen in a visit to Cruft's dog show, where by selection of natural mutations, he has bred the original dog line into a series of dazzling varieties.

The wild cattle that roamed the great primordial plains, free to turn ugly horns on carnivores or to flee in a rippling sea of rumps and outflung tails, have been changed by Man so that today a cow *must* be milked—she overproduces and wouldn't last a day on those same wild plains.

Gorgeous flowers throng our gardens, demanding incessant toil to keep them as we wish them to appear; left to their own devices they would revert to spindly masses with tiny flower-heads, be crippled by diseases—or just die out. Mankind can't keep his fingers off his planet or the flora and fauna growing there—and evolution is too tardy an agency for a man wanting to see results within a life span of three score years and ten.

Inevitably, Man couldn't keep his fingers off Man.

Although, biologically speaking, *Homo sapiens* is not a particularly stable genus, the way in which mutations cancel out under the stress of continued living means that over the short period of time *Homo Sapiens* has existed, his basic shape and functions have not altered. The human foot that adapted itself to running over the plains in pursuit of food because the trees for swinging in had vanished is the same foot that now controls the accelerator of fast cars and presses the rudder pedals of supersonic aircraft.

The ways in which it is possible to *influence* Man carry both frightening and hopeful pictures for the future. The ways in which it is possible to *change* Man carry the same promises, magnified tenfold.

Experiments have been carried out on chickens and ducks and mice in the attempt to penetrate down into the basic building patterns of heredity and to find out how to change offspring to a predetermined and uncharacteristic type not before known.

Kushner, working at the Moscow Institute of Genetics with white chickens, found that their offspring regularly included less than three per cent birds with a few coloured feathers among the white. But when similar hens were given twice weekly blood transfusions from coloured New Hampshire birds, ten percent of the chicks had one coloured feather.

Continuation of the transfusions in this generation resulted in the production of some chicks completely covered in coloured feathers.

Just how the blood change altered the gene pattern is anyone's guess.

Working with Pekin ducks, J. Benoit of France has shown that extracts from the reproductive organs of another type of duck can, by injection, completely alter their physical characteristics. In these experiments, within four months of the first injections, weight, carriage, colour and texture of feathers, colour of bills and tameness had all changed.

The suggestion that the desoxyribonucleic acid, which is the building block of the genes, has in some way become incorporated in the genes of the injected ducks is difficult to understand but must have taken place. For, of 26 ducklings raised from the eggs of the altered Pekin ducks, 18 retained the same peculiar characteristics of their parents. One race had been artificially transformed into another by altering the parents' genetic characteristics.

It means that *Homo sapiens* and his children are no longer dependent on the genes of his parents. Genius, physical perfection and resistance to illness can be transferred from one individual to another.

If desirable characteristics can be tailored into a man before birth—nature will take care of the rest.

It would be a humorously sobering, a chilling reflection on our desires and methods of obtaining those desires, to cata-

logue the various systems dreamed up over the centuries for ensuring the birth of children of a sex wanted by the parents.

Gordon, of Michigan State University, has worked out a system which gives him better than average control over the sex of unborn rabbits, which is a great stride into unknown territory. In using the latest techniques of science he may very well soon provide the answer sought throughout the years—positive control of the sex of unborn children.

His system depends upon the difference in reaction between sperm cells containing X chromosomes and those containing Y chromosomes. When the ovum is fertilised by a sperm with an X chromosome, the child will be female ; Y chromosomes produce boys. So if the sperm cells can be separated and labelled, then the required sex will follow.

By suspending the cells in solution and passing a small electric current under the favourable conditions it is possible to sort out male from female ; X sperms move to the anode and Y sperms to the cathode. The process is not clear cut and Gordon's results reflect that ; but instead of the usual 50-50 male and female division of rabbit litters, he obtained 80% female after insemination with his selected X sperm. For the beginnings of the art, this is a satisfying result.

Having, in the future, decided on the sex of the child, the next step will be to tailor the foetus to fit requirements still more rigid. It may be possible to transfer the fertilised ovum from one woman to another, possibly in the first instance because the true mother—the donator of the ovum—may have poor health. The woman who carried the child would serve only in the capacity of foster mother or human incubator. But who can envision the snares of emotion and possession that might follow such transference ?

Carrying this type of biochemical trickery a step further, it may be possible to replace the nucleus of an ovum by the nucleus taken from another person. The new nucleus could originate from a man or a woman. This means not only that parthenogenesis—self-fertilisation—could apply to human women but also that a man could be the true genetic father and mother to his child. The man has provided both sides of the equation and the woman serves merely as the human incubator.

Having thus assured that the human race will continue even if all men died off suddenly, the next step is to change the end

product to tailor the child. Already bacteria have been mutated by desoxyribonucleic acid and it seems likely that hereditary factors from one person could be transferred to another, through the reproductive cells.

As yet only imagined by science fiction writers, a class system might emerge, where every person fitted into a tight niche in a rigid system of workers, soldiers, scientists and thinkers. This throws up the dark side of our possible future. A brighter possibility is the Spare Parts Bank.

Already deep freeze storage is being used to keep a stock of corneas for eye grafting and skin, arteries and bones ready for replacement of injured or diseased human parts. The main trouble is that the body rejects foreign cells and all organic matter has to be removed from bone, for example, before it can be grafted successfully.

A 5,000 year old bone from Ancient Egypt has been successfully implanted into a dog. Men are walking around with arteries from others in their bodies ; synthetic arteries of nylon have also been revolutionary successful in treating heart and kidney faults.

Once the allergy due to foreign cells has been overcome, it will be possible to store and graft in kidneys, glands and hearts. So far, it has only been possible to transfer kidneys between identical twins.

Yet this allergy reaction to foreign cells does not occur in the embryonic state. Parts of embryo chickens' brains have been transferred from one chicken embryo to another. The embryo at this time is a mere 0.2 inches long, and fantastically precise surgical technique is required to remove two of the five parts of the primitive brain. The results here—30% continued living until the day before they should have hatched, 6% hatched into viable chicks, of which one lived for as long as 70 days—sound poor but in fact are encouraging.

X-rays have been used on chicken embryos to produce monsters—two-headed, four legged, one fused-leg—in order to study what effect fall-out radiation has on life, and to seek possible checks and preventives.

The effort to transplant parts of rats' brains into chick embryos failed ; the operation was successfully performed, but all died in 17 days and none hatched.

One fact proved by this work was that the tissues of these embryonic patients would link ; they were compatible, unlike adult tissues which will not knit. Further work along these

lines may well reveal the basic needs for the grafting of a dead person's leg onto the living body of a man whose leg has been lost in a car smash. The human spare parts bank is a normal and vital section of hospital equipment, along with anaesthesia and plasma banks.

With all these different lines of transmogrification working out the destiny of the human race, there will be need for strong and understanding legislation to cope with the myriad problems that will arise. The law will be changed alongside the human body. From these first fumbling experiments with rats and chicks and rabbits may well emerge the master hand of body planning, when unborn children can be endowed with genius, with physical strength and strong will power. A negro child could be made white—or white negroid. The weaknesses of all humanity could be weeded out.

At last humanity might face the stars with all a planet's skill and all a planet's genetic resources fashioned into the bodies and minds of her exploring sons.

*Kenneth Johns*

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*Francis G. Rayer makes a welcome return herewith after a long absence with another angled viewpoint on the contact of alien and human. Ambassadors are not normally warlike—but undoubtedly they are always extremely cautious!*

# SEARCHPOINT

by FRANCIS G. RAYER

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*As Man expands, reaching other planets, other systems, and other galaxies, he must expect to encounter alien life forms of great diversity. Some may be extremely strange or extraordinary in type—Karnoff's Probability And Mankind.*

"We'll go down closer," Joe Braby said, and pressed the truck starter button.

The descent was uneven. The truck bounced on its springs, dust drifting from under its wheels. A light wind was coming in from the direction of the estuary, and beyond glinted like tranquil silver one of Tagus III's few seas. Away to the right, the estuary made a broad curve, narrowing sharply as it swept inland. Far to his left, a brown smudge, hung the dust clouds of the sandy wastes which ran from sea to hills, flanking the settlement to the west.

As Joe drove, his attention was focussed upon the narrow spire of gleaming blue which rested upon the flats below the hills. It should not have been there—did not, indeed, belong to the Southwater colony, or to Earth, or to any other human colony out here near this dim star of Ursa Minor. Its sudden

appearance that morning had already percussed through the whole settlement.

Seen nearer, it was obviously a spaceship. But no ship was scheduled for arrival, and the strange hieroglyphics on her side resembled no human identification marking. Furthermore, an exit port stood open, and a metal ladder extended from it to the ground.

Joe stopped the truck fifty paces from the ship. A movement caught his eye to his right—a man, with something in his hand that glinted.

“You’ve already had the spot surrounded,” Joe said, his gaze flickering over the face of the man in the seat besides him. “Was that in time?”

Captain Halsted grunted. He was heavy-shouldered, broad as a bull, so that the seat springs creaked as he rose.

“It could have been quick enough. When young Allender spotted the ship it was standing exactly as it does now, open, with the ladder down. Allender walked up to it, thinking it was perhaps a patrol. He called, got no answer, and only noticed those markings when he moved away.” Halsted put a hand on the open truck’s windshield, standing to get a clear view. “Whoever came in the ship might already have left. Alternatively, they could have been frightened by Allender and still be concealed inside.”

Joe drew in his round cheeks. He seldom saw eye to eye with Halsted, whom he personally regarded as something of a tyrant, but admitted that Halsted’s action had been reasonable enough.

“You’ve got the whole area surrounded?” he asked.

“So far as matters. The estuary’s a mile wide at its mouth, and I’ve got a helicopter watching it and the sea.” Halsted jerked a finger at the ship. “Whoever came in her won’t get away that easily!”

Joe rose his brows, hesitated, but was silent. It was, he agreed, not always easy for a civilian to see things as a military man saw them. Halsted had automatically assumed the ship might have brought an enemy.

Dismissing that line of thought, Joe started the truck and drove in a slow circle round the ship. It was either empty or occupied by unseen observers. The touch-down seemed to have been perfect, and no exterior defect hinted at a forced landing.

Halsteed was growing visibly impatient. He sat hunched in his seat, head craned round to see in front of Joe. Once he muttered something, as if irritated by the slow circling of the ship.

"Someone's looked for footmarks or the like?" Joe asked as he came diametrically opposite the direction from which they had approached.

"Of course." Halsteed's tone suggested the point was too obvious to consider further. "There are a few indefinite marks near the bottom of the ladder. They confirm things neither way. Farther away, the stones and grass would leave no traces. It's not far to the road from the estuary, as you know."

Joe nodded. The crushed stone roadway from the waterside up to the huddle of buildings which was the Southwater colony would reveal nothing.

"This settlement is important," Halsteed went on, tones clipped. "There's not another worth mentioning within a couple of parsecs of here." He frowned, his heavy face morose. "I know you look upon me as a bit of a trouble finder, Braby. But when I see anything like that ship back there I always wonder if it's the thin end of the wedge."

Joe glanced questioningly from the rising slope ahead. "Thin end of the wedge?"

"Yes. In every ancient victory there was a first spear, in every war, a first bomb. We've crept on, expanding. But one day someone—something—may decide it's time to start rolling back this creeping tide of spreading humanity."

He was silent, his heavy chin almost bumping his chest as the truck bounced on. Joe realised for the first time that much of Halsteed's abruptness and intolerance sprang from awareness of his responsibility. In Halsteed's mind, Southwater represented an insecure encampment encircled by hitherto silent, but probably antagonistic forces. As such, it was a salient to be held by man for man . . .

In the fifteen remaining daylight hours of the planet's slow rotation no further information reached Joe. The usual heavy evening mists were beginning to rise from the estuary when his office phone buzzed. He took it up.

"This is Eddie, Joe." The voice was annoyed. "Halsteed has frozen down on our transport."

Joe's face twitched. Mild by nature, he regarded Halsteed rather as an ever-present irritant.

“Why?” There was a snap in his voice.

“He says there are too many hiding places among our equipment.”

There was truth in that, Joe thought. Eddie Cummins was overseeing trial mineral borings at the west end of the hills, and trucks ran from Southwater to the boring site several times a day.

“I’ll check with Halsteed,” he said.

It was five minutes before he gained contact. Halsteed’s voice had a new, rough edge as he replied. Joe came to the point quickly.

“We need those minerals, Captain. It’s my job to see we have them. We can’t work effectively when you’ve stopped our trucks.”

“Sorry, Braby.” The tone carried no apology. “With luck it won’t be for long—only until we’ve caught whatever came in that ship down on the flats—”

“And without luck?” Joe snapped.

“Just as long as I need to make it. I’m confident that whatever was inside that ship is still within my cordon. I can’t have trucks running in and out of the sealed area. Two came in this afternoon, but I’ve stopped them going out. That’s an order, and applies to everyone.”

The line went dead. Joe said ‘damn’ quietly, aware that that Halsteed’s tone had made him hot around the collar. Yet, as usual, Halsteed was right. Joe shrugged, taking up the first phone.

“The Captain’s within his rights, Eddie,” he said. “Carry on as best you can—”

“And get weeks behind! We need every ounce of useful metal.”

“We do,” Joe agreed. “But we also need to know what came in that ship. When priorities clash, the military has it, as Halsteed would say.”

He left Eddie Cummins muttering against brasshats who stopped essential work, and phoned a message saying he would like to see the man who first noticed the ship. Waiting, he took a couple of turns round his desk, frowned at the mists rising from the estuary, and dialled another number. A young woman’s voice answered.

“Biology section here.”

“This is Joe Braby. You’ve heard of the ship, Susan?”

“Who hasn’t?” Susan Field sounded friendly, interested. “What was in it?”

“That’s what we don’t know, yet. Halsteed has clapped his men round the area, and swears he’ll catch whatever’s in there. That’s a reasonable military outlook on it.” Joe sighed. Halsteed always succeeded in being right. “I’ve looked at the ship from a distance, but not been inside. Sooner or later someone must go in and see if there’s anything inside. If there is, your presence could help. If the ship’s empty, you might help deduce something about its occupant.”

“Perhaps.” She was clearly not making promises. “You want me to come?”

“Tomorrow. Halsteed would never allow it during darkness. He’s probably got searchlights trained on that port, but isn’t the man to take chances.”

“Fair enough.” She paused. “I heard there was a ladder—”

“From the port to the ground.”

“Then presumably we’re looking for something which would use a ladder.”

She left him at that, and Joe smiled. A being that would use a ladder: thus presumably with prehensile members. Of moderate size, judging by the ladder’s dimensions. Already he could picture something descending from the port, swinging round by round to the flat below.

A knock came on the door. He opened it himself, standing aside as a young man with intense ginger hair came in. Joe closed the door.

“Please sit down.”

“Thanks, sir.”

Returning to his desk, Joe studied him. Young Allender was an honest-faced, pleasant looking chap. Not the sort to observe very much, perhaps.

“You saw the ship first?” Joe asked.

“Yes, sir.” Allender looked as if he wished he had more to tell. “I wondered what she was doing there.”

“You didn’t hear her land?”

“No.”

“The port was open, and the ladder down, when you first saw her?”

“Must have been, sir. I didn’t notice the open port until I got closer, of course. Then I shouted, but nobody came.”

“There was no sound—no movement inside or outside the ship.”

Allender's expression showed he was thinking hard. "No, sir."

"Nothing went back up the ladder as you were approaching?"

"No, sir—I'd have noticed."

After a few more questions Joe decided that young Allender had no more to tell. Until the morrow brought actual investigation of the ship it must remain a waiting game.

Alone, Joe began to work out a plan which would allow Eddie to make progress, while temporarily avoiding the truck service from the colony. Cummins himself came in after a perfunctory knock, an hour later. Dust and earth still marked his clothes and scattered from his old peaked cap as he dropped it on the desk, sitting beside it.

Joe smiled bleakly. "Still irate, Eddie?"

"I am! And tomorrow will be worse." Cummins jabbed a dirty finger on the notes Joe had prepared. "You'll be clever to prepare a work schedule that doesn't need fuel, Joe!"

"As bad as that?"

"We were going to truck more out to the borings today."

Cummins got off the desk. Dust disturbed by his action slowly settled. His stained face was morose, his voice frustrated.

"How does Halsted think we can get on with our job with things like this," he complained. "We have a dateline. Does he think we'd be giving free lifts past his cordon to anything trying to escape? We're not that soft. I doubt if a mouse could hide on one of our fuel trucks—"

The phone buzzer halted him. It was Halsted, more imperious of tone than usual, Joe thought as he answered.

"It's about your trucks, Braby," Halsted said.

Joe bristled. "I was going to ask you to let some through. You can guard them while taking on fuel, and while pumping it into our tanks at the borings."

"Impossible!" Halsted seemed not to be listening. "There was something in that ship, and at the present it is within my cordon! This is to let you know that in no circumstance is any vehicle to pass my men—"

Joe felt annoyed at both tone and words. "You might credit us with some sense!"

Halsted snorted audibly. "Sense may not be enough—yet. No trucks. That's an order."

"Yet a bit high-handed, in my opinion!" Joe snapped.

"That remains to be seen, Braby. During the last hour someone—or something—penetrated into my offices and searched through all our private files. I was about to tell you, but you kept interrupting."

The line went dead, silence following the near triumph the words carried. Joe felt red. As usual, Halsted was right, but that did not make it more pleasant. He sought for words, but Eddie Cummins laughed briefly and expressively.

"Don't tell me, Joe. His voice was loud enough to hear it all. You're sat on—officially. He's got our visitor in his cordon, and come flood and famine, nothing will pass through."

Joe got up jerkily. "Don't rub it in, Eddie. I'm going to do one thing at least which Halsted didn't suggest—see for myself!"

A light off-sea breeze brought mist from the estuary. The colony buildings were dark shapes with hazy, illuminated windows. Occasional naked bulbs at corners gave patches of light and shadow. Joe walked quickly, mind active on this new development. It backed up the apparent wisdom of Halsted's action. So long as their visitor was confined to this area, a reasonable chance of capturing him existed.

The buildings that formed the headquarters of Halsted's command were at no great distance from the estuary. Joe knew that he must admit Halsted's ability. This position of trust on Tagus III had been won by the achievement of results, and Halsted would bring the whole project to a halt, rather than risk a mistake.

The mist was thicker near the military headquarters buildings, coming in low over the ground. The planet's long, warm days contributed to it, Joe thought as he knocked.

Inside, he asked the aide for Halsted, waited, and was asked to follow down the corridor. At its end, light streamed from an open door. Halsted stood there, half blocking it. Beyond him was a litter of papers covering a trestle table and the floor, and every drawer in several filing cabinets was out, some lying inverted on the documents, charts and docketed communications.

"I didn't appreciate it was this bad, Captain," Joe said.

Halsted started as if stung, turning. He was clearly searching for words, suppressing a minor explosion.

"It's worse than you think," he said, "much worse. When I previously saw this room, it was in order. I locked it myself, and the window has steel shutters, as you see. It was a usual safety precaution—a regulation."

During the coming days Joe often remembered Halsted's tone, and was not without sympathy. In normal circumstances, an official directive could have terminated Halsted's command at that moment. Meanwhile, the mineral borings remained idle, without fuel. The colony began to take on something of the appearance of an abandoned project. Men talked idly, or stood at vantage points watching for something no one saw. Only after three days would Halsted let an investigation party approach the ship.

Joe went with it, with Susan Field silent and rather tight-lipped besides him. They ascended the ladder with infinite caution. Investigation inside the ship occupied many hours. It was apparently empty, and of unknown origin. Control was by an elaborate series of push buttons, and gave no clue to the physique or form of the owner. Near the exit port was a mechanism with hooked treads so spaced that they would engage with the ladder rounds. Joe noted Susan's significant glance.

"So much for my first guess," she said. "The ladder is only a kind of runway. If so, we've still no clue."

Nothing was disturbed, but Joe decided that the propulsion and other mechanisms in the ship would probably become intelligible after detailed examination.

When they left, he knew there were significant omissions. If the ship carried food, he had not seen it. A store of concentrates, water, a resting place for a sleeping being—all were absent.

"I'm not convinced that Captain Halsted's approach is the right one," Susan Field said. "It's too—military."

The long room contained many indications of her work: tabulated information on the flora and fauna of the planet, specimens, a few small crates waiting shipment to Earth. Given data, she could soon produce results, Joe thought. But without data, it was only guessing. He half sat on one of the tables, his hands on its edge.

"If a shooting party met me I'd perhaps hide," he admitted. "But at least his cordon has narrowed the search. The flats

out where the ship rests offer no cover. The estuary and sea are under patrol observation night and day. These few buildings, the half mile of seashore, and the tree clumps between the estuary and the end of the hills are the only hiding places inside Halsteed's cordon."

He doubted if even the planet's equivalent to a rabbit could have escaped the area. Halsteed was doing the job thoroughly, as always, with mobile patrols, hidden watchers at strategic points, and fixed, mobile and air-borne searchlights.

Susan stood near one of the long windows. The side lighting put flecks of gold in her bright yellow hair, in close curls. Her oval face suggested gentle concern, but Joe knew that a keen, able brain backed up the penetrating glances which had explored the ship. Looks alone would gain no one a place this far from Earth. She smiled fleetingly.

"You're irritated because your work has been stopped."

He did not deny it. "You've thought out another approach?"

"Nothing definite. I'd like to try friendliness. Halsteed seems to act on the dictum that if you see anything you don't like, you should shoot it. He needs reminding we're a long way from Earth. The farther we get, the nearer that brings us to other important races, out here. It's not the first alien ship we've encountered, and when I see one, I always wonder what's behind it, a tiny pinpoint of civilisation, or a hundred great inhabited planets. My training taught me to respect life. Halsteed's taught him to make everything an enemy until it's proved a friend. A lot of danger can be caused that way."

The staccato echoes of a repeating rifle shook the window. A second volley sounded, and shouting voices. Joe ran for the door, flung it open, thudded down the corridor, and burst into the space between the biology huts and next block. A man stood at the corner, his rifle half at the ready, a foolish expression on his face.

"I'm sure something was trying to get into the truck—" he was saying.

Joe ran to him. "What was getting in?"

"I—I don't know, sir. I just spotted it from the corner of my eye, and let fire. That's instructions."

He paused, inarticulate, uncomfortable as a sentry to be accused of a false alarm. A line of holes in the side panel of the nearby truck testified to his aim. The truck was empty.

Joe was present when the man was questioned by Halsteed, and learned nothing more. Unless it had been a trick of vision, or a moving shadow from a plane, there was no explanation. Exasperated, Halsteed finally told the man to go.

"You think he really saw something?" Joe asked.

"I believe he did."

"Yet we were there immediately, and saw nothing."

"That's not conclusive!" The other looked censorious, as if no civilian could be trusted to observe correctly. "At least it helps to prove that my ring of guards is effective! My plan now is to contract that ring, clearing the buildings of Southwater first."

Joe considered, his lips drawn in. Halsteed's plan was sound—a forcing move, yet one based as usual upon the idea that the visitor was a spy to be trapped.

"You may gain your point like that," Joe agreed quietly. "But is it wise?"

"Wise?" Incredulity was in the word.

"Yes. The ship down on the flats seems undamaged. Therefore it was not an emergency landing. If not an emergency, it had been planned. If planned, some aim was in view. What aim?"

"To spy on us!" Halsteed snapped.

"Perhaps not quite. Miss Field suggests it may be rather an investigation to see what kind of beings *we* are. A probe, a search into *our* ways and methods. If so, what kind of impression will your shoot on sight policy give?"

Halsteed snorted so that his very cheeks vibrated. "Rubbish! Fantastic! I don't need a girl to teach me my job!"

"She's not!" Joe got up, irritated. He knew that if he stayed he would quarrel openly with Halsteed. "I'll grant spies exist. But so do emissaries sent on peaceful investigation—"

"Which I suppose includes rifling my files?" Halsteed demanded sarcastically.

"No. That could have arisen because you forced our visitor underground." Joe paused at the door. "The more I think of it, the more I'm inclined to Miss Field's opinion. Spies don't leave ships standing for everyone to see—they arrive secretly."

He left, wondering why the captain always succeeded so ably in rubbing him up the wrong way. It was, Joe thought, inevitable. Water and oil did not mix, normally. Halsteed's method was attack, keep the initiative, don't let the other man talk, but shout him down.

A brief half hour saw the plan going into action. One by one buildings were searched with fanatical attention to detail, under Halsteed's personal supervision. One by one the buildings were placed outside the cordon. Joe felt uneasy. Eddie Cummins, back on foot from his silent borings, voiced Joe's inner fear.

"I don't like this, Joe," he said, watching a score of men pour from a cleared building. "I'd like to think our visitor had good motives, until it were proved otherwise. Halsteed makes us look a bunch of savages ! Who'd be to blame if our visitor acted as if we are exactly that ?"

By evening the buildings were cleared. Part of a combined operation, the men along the flats west of the ship had also advanced, squeezing inwards until the contained area was reduced to half. The shortened perimeter was to Halsteed's favour, and his men could keep up a shouted conversation. Riding behind them over the flats, Joe heard much of the banter that passed from man to man. They were becoming jocular, beaters now eager to flush hidden game. Far ahead the ship remained empty, a lonely blue spire.

The men from Southwater joined the right flank of those coming in over the flats, and the cordon stretched in a broad semi-circle from the sea to the estuary. There they halted. Apparently the final advance was to be delayed until dawn. An hour of daylight remained, and Halsteed began to consolidate the line by bringing up trucks carrying searchlights.

Joe was returning towards Southwater when he saw Susan Field and Eddie Cummins walking quickly near the stone roadway, and apparently looking for him, from their welcome.

"I was afraid we'd not find you," Eddie said.

"Why ? What's happening."

Eddie waited until a patrol had gone by. "Suppose we three have a look round ourselves ? It was Miss Field's idea."

"Down there ?" Joe indicated the flats, and distant ship.

"Yes !" Susan's voice was quick with excitement. "We'll go as friends, unarmed. Even the Captain won't object to us looking round inside his cordon."

Joe's gaze travelled over the flats. Perhaps three-quarters of a square mile remained unsearched, not counting the open ground. The cordon extended to their left, the sea was straight ahead. To their right, the estuary glinted in evening light. The usual evening mist was beginning to appear, lying hazily

near the ground, forming more rapidly near the few clumps of trees, and over the stream that flowed from the hills to join the main waters of the estuary. With morning, the fateful compressive squeeze of Halsteed's men would commence.

"I'd like to go," Joe said quietly.

The contained area lay still and isolated. They separated, and Joe walked down towards the ship. Halsteed's searchlights would be ready to play upon it, but now it stood unilluminated, port open, ladder down.

He climbed the ladder and stood in the port, waiting. He could see Eddie walking rapidly towards the shore. Here, rocks fell quickly to the sand, and hiding places were few.

The evening breeze had dropped, and the ship was completely silent, withdrawn from the planet and its human activity. Joe did not go further inside. If the alien was there, his presence was known.

Minutes drifted by, and Eddie went from view. Joe listened, watching the flats. Some sixth sense told him that the ship was empty. He waited a little longer, then descended, and turned off towards the estuary.

It was wide, fairly rapid, impassable without a boat or raft. Joe was certain that the alien would not cross, thereby placing the barrier between himself and his waiting ship. At the water's edge, Joe turned right, walking slowly towards the trees that edged the hill stream.

He stopped often, listening. Once he glimpsed Eddie on a high rise by the sea. Susan was higher up the estuary bank, working slowly down from the cordon there.

Joe halted under trees near the stream, and stared out over the misty estuary. Up near the buildings someone was testing a searchlight, sweeping the daylight-stunted beam up and round. The stream was shallow, narrow enough to leap, and smooth and silent in its flow. Joe's eyes had followed its course several times before he realised that something unusual had in fact unconsciously captured his attention. A portion of the narrow waters seemed to be flowing slowly from the estuary towards the hills, strangely reversed. His eyes narrowed, but he did not move. The motion was certainly no trick of light. The surface waters were moving steadily towards the estuary, but at lower levels was a swirling, contrary motion.

A slight turbulence came into view, drawing level. Joe knew, now, that he was witnessing the slow ascent of the stream by something as transparent as water itself, that slid with a flowing motion over the pebbles and clay.

He heard a light step at his side, and Susan's fingers closed on his arm.

"What is it?" she breathed.

He pointed. She followed his gaze, and he heard a quick hiss of breath between her lips. Joe wondered what he should do. Duty would require that he call Halsted, or give an alarm. Something much deeper prompted he keep silent. He had never felt antagonism towards the being from the ship, or wished to be part of Halsted's kill or capture project.

"Let it go," Susan whispered.

Joe straightened, and realised that a man was coming down near the estuary bank—Halsted, clearly curious about their intent observation of the stream.

"Make excuses—even a false alarm the other way!" Joe whispered.

He turned quickly, following the stream towards the estuary. Halsted's course deviated, homing on him. Twenty paces from where he had seen the alien, Joe halted, waiting. Halsted stopped opposite him.

"You've seen something, Braby?" he demanded.

Joe looked surprised. "Only seeking for a place to cross."

The other's glance travelled up-stream. "That shouldn't be hard to find! And was Miss Field wanting to cross too?"

"No. She was telling me she'd seen signs of a camp fire way across the flats, but I told her I expect it was one of your men—"

"My men haven't made fires!" Halsted put in quickly.

"Then perhaps you'd better get her to show you," Joe said quietly. "I'll come with you. We may have some difficulty finding the place." He pointed to a narrow spot. "Coming over here?"

He set his back to the stream, momentarily closed his mind to the mystery that crept along its bed, and began to stride off towards a spot remote from the ship. He heard Halsted jump, grunt, and come up behind him.

"We'd better hurry," Joe said. "There were only a few burnt twigs left, I believe. We may not find them before dark—"

The alien extended a pseudopod up the stream bank, and lay momentarily still, resting. Into the circle of its awareness filtered a thousand impressions. Most it dismissed: the myriad, tiny feelings of humble things that moved in the trees and earth, and in the stream and estuary. Beyond them, standing out from the background sensation they furnished, were the stronger feelings of planning, willing beings.

Lifting more of itself, the alien lay in the mist. Only the flattened grass showed its presence. It extended itself, growing more tenuous and lower, blending with the mist. Only at one spot in its body did a vivid green dot oscillate, small as a firefly, vividly alive.

It had been very near to failure, the alien thought. The arrival of the biped animals in this part of the heavens had certainly merited investigation. They were clever, had considerable technological achievement. Yet the immediate reaction had been one of fear and hate. Upon no previous occasion had the alien felt so in personal danger.

The mission had been difficult. To enter the biped's buildings was easy. It had flowed in under the door, almost invisible. The multitude of written and printed papers within the recall of its photographic mind would probably furnish information, the alien thought. But it was not upon them that its report would be based. No task force need be detailed to sweep in on the planet, clearing it of the invader.

Rested, the alien flowed on among the trees. Its bodily strength was slight, and much exhausted from the movement and physical activity which had been required. The conscious circles of hate, fear and anger which came from most of the bipeds were becoming concentrated a long way across the flats, beyond the ship. The alien was glad, and flowed from the trees into the open, a moving dimness in the mist.

Once it had to pause, as four men came near, walking quickly, weapons ready. Their minds were four naked flames, eager to destroy because they were afraid. When they were gone, the alien flowed on towards the ship.

When it reached the vessel it had to rest, then it extended a high pseudopod, touching one side of the metal ladder. Inside the ship a mechanism awoke. The truck-like contrivance issued from the port, and descended the ladder, hook-shaped members engaging with the rounds. Eager now, the alien placed the end of its pseudopod in the truck. Slowly the hazy mass upon the ground decreased in volume, while that inside

the truck grew. The vivid green dot shone like a precious stone as it ascended. Then the truck awoke again, creeping with rhythmical clicks towards the port.

Somewhere across the flats a great splash of fear abruptly arose, flashing into being, finding action, being taken up and echoed by other minds. The alien lay still, feeling it, numbering the painfully slow clicks as each pair of hooks engaged, and were released.

Joe was still searching for charred sticks which he knew he would not find when the shout brought him up with a start. A young soldier was yelling something, almost hysterical, pointing at the ship.

An object was ascending the ladder slowly. Distance and evening concealed its form, but Joe could guess. Halsteed barked orders and the crackle of shoulder arms reverberated over the flats. Helpless, Joe watched the slow ascent. From another direction men were running towards the ship, some halting to fire, then running again. The ascending object paused, tilted forward, and bobbed in through the open port. The ladder began to creep upwards, almost as if in slow motion.

Halsteed was calling for a truck, and urging concentrated fire on the port. The end of the ladder vanished. The port closed, invisibly flush. Seconds passed, a minute, two, then coloured fire appeared under the ship's stern. She rose smoothly, gaining velocity, and it was a long time before the dwindling glow of her drive was lost amid the stars.

Already many hundred of thousands of miles away from the planet, the alien rested a pseudopod upon a sprung button, vibrating it to modulate transmitting equipment beamed on his headquarters half a light year distant. *The colony can be allowed to remain. Some of the bipeds are sympathetic, kind. In accordance with our policy, races showing this characteristic in however retarded a form, are to be allowed to remain. In some decades it will probably be worth establishing a trading relationship. A full report will be available when I return.*

The pseudopod ceased to vibrate. The vivid green dot began to slow its ceaseless dance, and came to rest, vivid as a pinned jewel. The alien slept.

Francis G. Rayer

*The final hours of the long count-down are nearly over but whether any of the few remaining scientists left on Kaluiki atoll will be alive to operate the necessary equipment is told in this final gripping instalment of Mr. Maine's new novel.*

# COUNT-DOWN

by CHARLES ERIC MAINE

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## Conclusion

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## FOREWORD

*The long count-down, which was to last 72 hours, began at twelve noon on January 18th on Kaluiki, a small Pacific island where the Western Powers were conducting "Operation Agnes," a secret experiment with a new anti-gravity device which would eventually give a spaceship the first faster-than-light drive. The success of this venture would be a huge step forward in astronautics and give the West supremacy over the Eastern Powers.*

*For security and safety reasons all unessential personnel are withdrawn a distance of 200 miles from the island, leaving only the seven scientists required to operate the equipment during count-down and Russell Farrant, the project's official photographer and reporter.*

*"Agnes," short for Anti-Gravity Nuclear Energy Supply, is under the command of physicist Guy R. Strang, assisted by Kay Kinley, computers and radar ; Josphe Hoevler, ballistics ; Hilde*

*Bartok and MacClennon, nuclear reactors ; Doctor Graham Youd ; and George Earl, Security Officer.*

*A few hours later, Kay Kinley picks up a strange pattern on her radar screen—the echo coming from a large metal object on a hill some four miles away and Earl and Farrant travel by jeep to investigate the mystery, arriving just as darkness falls. They disagree over the method of investigation and Farrant leaves Earl to carry on alone.*

*The next morning Farrant discovers Earl's revolver in his cabin but is unable to find the Security Officer. Complaining of a violent headache, he visits Doc Youd who diagnoses sun-stroke and orders him to rest. Later, talking to Kay Kinley in the canteen, he states that he brought George Earl back to camp late the previous night and that the explanation for the radar echo was apparently an old sunken wreck which had been thrown up from the ocean bed when the island was formed.*

*Later that afternoon, while cataloguing his film shots, Farrant is surprised to find five colour pictures for which he has no record, but these would have to wait until after count-down before development. As darkness falls he goes for a walk along the lagoon and on his return finds Kay Kinley awaiting him at his cabin—Hilde Bartok has been strangled !*

*Strang orders a postmortem and interrogates each of them separately. Farrant is the only one without an alibi—and he was also the last one to see George Earl. Until there is evidence to the contrary Farrant is the major suspect. When Strang has finished questioning him, Farrant makes for Kay's cabin, meeting Dr. Youd en route. The doctor confirms that she was strangled—and also that she was eight weeks pregnant. While Farrant is telling Kay this news Joe Hoevler bursts in upon them and informs them that Dr. Youd's body has just been found in the lagoon.*

*Strang decides to break radio silence and sends Farrant to the radio cabin to despatch the message to the waiting fleet. But Farrant finds the transmitters wrecked and all the spares smashed. He reasons that Strang must be the killer, and, armed with Earl's revolver, hurries to the reactor block—only to find Strang has been murdered. Leaving out Kay Kinley, the murderer must be either MacClennon or Hoevler—or the missing George Earl.*

*The next morning Farrant develops the five unexplained colour photographs and on four of them sees the battered body of George Earl lying in a crater on the hillside. The fifth shows*

*a half-buried bright metal object. The remaining members of the team have a conference and Hoevler suggests that something alien has been taking possession of their minds—something which did not want Man to reach the stars. Assuming this theory to be even partly true they decide to continue the count-down at all costs.*

*Hoevler and MacClennon, however, later attack Farrant, but after a bitter fight he gets the better of them, sending them back to their duties. He then sets off in the jeep to find the remains of George Earl and is troubled by vague memories as he unearths the body. By this time he feels sure that MacClennon must be the murderer and hurries back to the camp only to find that MacClennon is also dead. There can be no further doubt that Hoevler after all is the killer. But Hoevler and Kay are in the spaceship making final adjustments before takeoff. Joined by Farrant, the three attempt to rationalise the events of the past two days.*

### XIII •

At Hoevler's request, and not without reluctance, Farrant repeated his story in greater detail, beginning with the first exploration of the hill with George Earl, mentioning the unaccountable period of amnesia, outlining the macabre discovery of Earl's fate on the colour transparencies which he had processed, and finally describing the second journey to the hill which had resulted in the uncovering of Earl's body and the metallic finned cone.

"You swear that everything you've told me is true?" Hoevler demanded.

"In so far as my memory is accurate, yes."

Hoevler thumped the table with his fist. "There you've hit on a fundamental snag. When it comes to murder nobody can remember a damned thing. If you didn't kill MacClennon, then it must have been me, or Kay. But neither of us can remember."

"That's assuming *you're* telling the truth," Farrant pointed out.

Hoevler scowled. "Look, Russ, there are three of us left, and the game has gone on too long for any kind of pretence. Cards on the table. We've got nothing to lose—maybe a lot to gain. Me—I'm talking truth. Have done all along."

"Me, too," Kay murmured.

"Okay," said Farrant. "So none of us killed MacClennon or the others. If that's the truth then it doesn't make sense."

"You miss my meaning," Hoevler remonstrated mildly. "What I'm saying is—none of us retains any memory of a killing. It is blacked out. You must have killed George Earl, but you can't remember. Either Kay or myself killed MacClennon, but we can't remember. Any one of us, or maybe all of us, could have killed Strang, Doc Youd and Hilde Bartok, or Strang could have killed Youd and Hilde, and Mac could have killed Strang. You can take any permutation you like, but there was never any memory."

"You can't be sure of that, Joe."

"Not one hundred per cent sure, but it's logical enough. What's happened to us must have happened to the others."

"Does that have any significance?" Farrant asked.

Hoevler seemed to consider his words. "It means, Russ, that none of us did any killing, in fact. The real killer was something else, or should I say *is* something else. Something that can take possession of a human mind for a period and control the body for its own purposes. It started with you, Russ, when you got near to that buried cone. It slipped into your brain and took possession of your faculties, made you fight with Earl and eventually kill him. And then it left your mind, and you had no memory of what had happened."

"I see," Farrant said thoughtfully. "You think that's what happened to all of us?"

"It looks that way. This thing, force, power—whatever you like to call it—has been moving from one to another, waiting for the opportunity to kill without interference. MacClennon was the last victim, and that means that one of us was possessed by the thing sometime during the afternoon. We can't remember, and our memory train throughout the day seems continuous enough, but it happened."

"Yes," said Farrant subdued. "It could have happened that way."

Silence for a few seconds, then Kay said: "You obviously think that this invisible force is being used purposefully, on a definite assignment, Joe."

"Yes."

"And that assignment is to prevent the Agnes test."

"Yes."

"And to destroy the members of the team."

Hoevler nodded jerkily. "Just so."

"Well, then, why leave things so late? Why couldn't the thing have killed off every scientist working on the project months ago?"

Hoevler smiled sardonically. "That would have been difficult. Murder in a civilised society is not so easily accomplished—not on a multiple basis among security-blanketed scientists. After the first killing the police and the F.B.I. would have pulled out all the stops. The thing would have had to destroy security people, too, and lots of others only indirectly concerned."

"So the count-down was the right time, and Kaluiki the right place."

"Exactly. A simple matter of expedience. During the seventy-two hours of the count-down the team is isolated from the outside world under conditions of radio silence. Just to make sure that radio silence isn't broken, the thing arranges for one of us to smash the transmitter. The rest is easy. Without any kind of outside interference it can systematically eliminate us all, one by one."

Kay pursed her lips doubtfully. "What will it achieve in the long run. If this test fails, there will be others. If the team is wiped out, then other teams will be trained."

"It will take time," Hoevler pointed out. "And when the next Agnes test is ready, the same thing will happen. The test will have to take place well away from civilised parts—in the desert, or on a small remote island. The same conditions will apply. The same small community of experts neatly grouped so that a nearby cone can arrange for mass murder. Even if a task force of troops is used to screen the island, it will make no difference. We could never be sure which way the guns would be pointing during the count-down."

Farrant said glumly: "This would make more sense, Joe, if we knew why it was happening."

"But we do know why. It's a serious and so far very effective attempt to prevent the human race from acquiring the secret of anti-gravity."

"Then—who, or what, is behind it?"

"Other human beings."

Farrant shook his head in slow perplexity. "I could accept the possibility of interference from, say, some other planet. That cone thing might be some kind of alien rocket, and it

might have been sent for the one specific purpose—to erase the Agnes project. But that's assuming a helluva lot—that there are intelligent creatures on another world, that they know what's happening here on earth, that they've mastered the technique of space flight, and that they can launch a rocket to hit a pin-point target like Kaluiki atoll over a distance of millions of miles." He considered for a moment. "It's assuming too much."

Hoevler was grinning again—a thin cynical grin. "Too bloody complicated altogether, Russ. This is a much simpler thing. It doesn't concern other planets, and it doesn't involve intelligent creatures anywhere else in the universe, if there are any, which is doubtful. It concerns men, here, on this planet. Men destroying men. You're thinking in terms of space, but this has to do with time."

"Time . . ." Farrant echoed blankly.

"It has to do with a projectile travelling at more than the speed of light. Formerly that would have been impossible, but the Agnes project makes it possible. Create a field of inverse gravitation, and a projectile can accelerate to the speed of light and beyond. Remember the Lorentz-Fitzgerald contraction?"

"No, I don't," said Farrant firmly.

"Never mind," Hoevler remarked generously. "The significance of the thing is that an object travelling faster than light isn't travelling through space at all. It can't, because its physical mass becomes infinite. It is travelling through time, Russ."

"But I still don't see . . ."

"Russ," Hoevler breathed impatiently. "Will you ever see anything that can't be put over in comic strip form? The real importance of the Agnes project is something we completely overlooked. Anti-gravity isn't the end—it's the means to the end. That end is time travel. Right now it's in its crudest form. We can create a weak antigrav field to launch a projectile, and somewhere out in space it will twist into another dimension and move along the time axis—on into the future, or back into the remote past. Decelerate, and it flips back into ordinary space again, but at a different point in time. Given the power, though, we could dispense with the space flight run to achieve acceleration to the speed of light. We could create an immensely powerful anti-grav field

that would achieve the acceleration in a fraction of a second. The projectile would simply vanish in the twist of the field and move in the time dimension."

He paused, staring intently at Farrant with his green eyes, then added: "Rather the way in which a helicopter or a vertical take-off jet eliminates the necessity for runways on the ground. Not quite in that way, but you get the idea."

"Yes, I get the idea," Farrant agreed. "But that still hasn't explained who is behind all this murder and sabotage."

"Hasn't it?" Hoevler looked surprised for a moment. "I should have thought the rest was fairly obvious. Let's suppose we live in a nicely balanced and organised society at some point in the future. Maybe five hundred years hence, maybe five thousand, maybe five million. We have a tremendous technology. We have conquered space and time. We are a happy and peaceful people living in a Utopia. The history of humanity is a history of strife and bloodshed culminating in atomic wars in which, perhaps, nine-tenths of the human race was obliterated. But all that is over now, and this is the millenium."

"Granted."

Hoevler poked the table top with his forefinger, and his voice became more incisive. "Suddenly our wonderful society is invaded by people from centuries past, people who are seeking escape from the great atomic wars that are decimating mankind, people who, in a rapidly advancing technology, have achieved a break-through in the dimension we call time. Perhaps they come in hundreds and thousands, and perhaps they are aggressive and belligerent, and perhaps our own society is too small to be able to absorb or control them effectively. What to do, Russ? How to deal with these illegal immigrants from the timelines, that is the problem."

"Fascinating," Farrant murmured drily. "Atomic wars, too—or is that just a throwaway gesture?"

"Not so improbable," said Hoevler curtly. "Atomic bombs could produce atomic wars, and if that happened there are millions of people who would seek any escape route—even to the far distant future. But would our people of the future approve of a mass exodus through the centuries?"

"Well, I get the picture now," Farrant conceded. "Your parable is intended to be fact. Sooner or later, you say, there will be an atomic war . . ."

"In the plural," Hoevler interposed.

"But if the Agnes project is developed, we shall be able to travel in space and time. It wouldn't be much good trying to escape into space because survival on another planet would be a major problem. Much simpler to move on in time, looking for a period of peace and prosperity, then gatecrash the community of the future. Naturally, you'd be prepared for opposition, so you'd take arms to maintain a beach-head, and if the society of that time were truly peaceable they wouldn't have any arms to fight back with."

"They'd fight back in other ways, as witness what has happened here on Kaluiki," said Hoevler. "But their main object would be to prevent the flow of immigrants. So why not cut it off at the source by destroying time travel before it has been invented?"

"You can't work retrospectively in that way," Farrant objected. "You can't remove time travellers by destroying the technique at its beginning. Either it was developed or it wasn't and if it wasn't then there wouldn't be any time travellers at all."

Hoevler stroked his beard amiably. "Poor Russ," he commented. "Myopic as ever in the plane of concepts. You're taking an old fashioned view of time as something immutable—the moving finger writes, and all that. Certainly that's the conventional idea of time—the ever-rolling stream, and so on. Try to look at it from a four-dimensional point of view. Time becomes a tangible medium—a new projection of solid matter in a kind of space we find it hard to visualise. One can now *interfere*. One can make experiments in the time dimension. One could, for instance, make people disappear, or perform apparent miracles, or observe the past from projectiles which have infinite acceleration . . ."

"You mean—like flying saucers?"

"I mean like anything which cannot be explained by the natural laws as we know them."

"Then—this cone thing on the hill is a time projectile . . ."

"Yes."

"Containing . . . what?"

Hoevler shrugged helplessly. "Anybody's guess, Russ. Perhaps a man, though I doubt it. More likely it contains equipment which we couldn't comprehend if we tried, designed to enable those scientists of the future to seize control of our

minds here and now. Under that alien control we destroy each other."

"But not any more," said Farrant tersely.

"The thing is still with us," Hoevler pointed out.

"True—but now we understand it, and we can fight it at its own level. We can retain control of our own minds."

"We can try."

"For a few hours, Joe. Until noon tomorrow—until an hour before noon, when the television circuit opens up we can get a message to the carrier over the video channel."

Hoevler stood up slowly and ominously. "By that time we shall all be dead," he stated. "We've got to act now. This very minute."

"To do what?"

"Carry a load of high explosive up the hill in the jeep. Excavate round the cone. Pack enough explosive around it to blow up a battleship. Then light the fuse and beat it."

"Yes," Farrant breathed. "That's the answer. Why didn't I think of it before?"

"There are always things we ought to have thought of before," Hoevler remarked. "Now as to the plan. You, Russ, go over to the explosives hut in the jeep . . ."

"It's already parked over there," said Farrant.

"Good. Load up with dynamite. As much as you can carry. And don't forget the fuse."

"Okay."

Hoevler turned to the girl. "Kay, this is likely to be a long job. If you'd care to fix up some refreshment we could take with us . . ."

"Yes," she said quietly, "I'll do that."

"And I'll get the rest of the tackle—spades, pickaxes, and a couple of drills. You never know—we may be able to drill some sizeable holes in the shell of the thing big enough to take some dynamite, and blow it up from the inside too—just to make sure."

Hoevler, now a man of action, swung jauntily over to the door of the canteen, then stopped and looked back.

"We'll all rendezvous here, just as soon as possible," he announced, then added crisply: "And get cracking, Russ. You've got a lot to do."

With that he was gone.

## XIV

After Hoevler had left, Farrant looked at Kay and said :  
“That man continually surprises me.”

“In what way?” she asked.

“I’m not sure. I think it’s his unpredictability more than anything. Earlier today he tried to kill me, and now . . .”

“He thought you were the mass murderer among us, Russ.”

“Well, it seems none of us is. The murderer is something from the remote future, and we’re just pawns in the game. I’m still not sure whether I believe it or not.”

“It doesn’t matter. The facts are unchanged, and we have our night mapped out for us.”

He took the revolver from his pocket, glanced at it for a reflective moment, then put it on the table in front of her.

“You keep it,” he said.

She eyed him soberly. “Why, Russ?”

“Because the thing is still with us, and Hoevler is unpredictable.”

A ghost of a smile twisted the pale line of her lips. “I don’t think that will happen any more—not if we work together as a team—a single-minded team.”

“Take it, just the same,” he said.

She touched the gun with her slender fingers, then picked it up. “It’s heavy, Russ. Not the kind of thing women are wearing this year, but if you insist . . .”

“I insist.”

She slipped the gun into the side pocket of her skirt, where it bulged conspicuously, then stood up. “Well, Russ . . .”

He went over to her and took her in his arms. “Kay, when all this is over . . .”

“I haven’t dared to think about it,” she whispered. “I’ve been so scared.”

“Soon,” he murmured. “Soon—we can pick up where we left off.”

“I want that more than anything else in the world, Russ,” she said.

He kissed her briefly and said, “Remember, I love you.” Then, releasing her, he walked quickly to the door and out into the black Pacific night. For a moment he paused to find his bearings, then set off at a steady pace to the dispersal point where the jeep and the explosives waited behind the blast wall. As he walked, a subtle sense of elation possessed

him. Gone was the confusion and the fear, and in its place was the exhilarating confidence of swift decisive action. At last they had got the measure of the situation—all three of them. That was all they had ever needed—the measure. And now, for the first time in days, his old training as a journalist began to colour the trend of his thoughts. My God—wait till *they* know, he told himself, *they* symbolising the outside world. This could be the biggest news story of the century—bigger even than the entire Agnes project—and fate had handed it to him as an all-time exclusive.

Pictures, he thought abruptly, I've got to have pictures—as many as I can take. Pictures of the thing in the hole, cine shots of the excavation. Lighting—that means portable colour floods and batteries. A heavy load. Hovler might crib. He'd consider dynamite the more valuable cargo, and he might be right at that. It'll have to be stills—colour stills with the press camera and the electronic flash.

He decided to pick up the cameras on his return. For the moment it was more important to load the explosives. But it would have to be recorded in detail, the whole venture, and even Hovler couldn't stop him from doing that, for, after all, that was his specific assignment on Kaluiki.

He reached the jeep, climbed in and drove across to the concrete explosives store, and there he encountered a big unforeseen obstacle. The door was locked. Annoyed with himself for overlooking the obvious, he kicked the stout timber of the door, but only succeeded in hurting his foot. George Earl would have had the key, of course, and it was probably still in his pocket, up there on the hill.

Angrily he walked around the small cubic building, inspecting it with his torch; the walls were of preformed concrete slabs, probably reinforced, and certainly impregnable. There were no windows. The only point of access to the interior was the door, and it was a tough door, of solid planks clamped by steel lathes, secured by a big lock. Tentatively he threw his weight against it, but there was no encouraging movement of the wood.

It was becoming increasingly obvious that he would not be able to tackle the door alone. He would need Hovler's assistance. The two of them together could probably manoeuvre a heavy battering ram at sufficient speed to smash

their way into the building ; it would waste valuable time, admittedly, but there seemed to be no alternative.

He got back in the jeep and drove quickly back to the camp, making a diversion to his own quarters to pick up his camera and flash equipment. Better to present the cameras as a *fait accompli* than to attempt to persuade Hoevler that they were necessary when the expedition was virtually under way.

He was sitting in the jeep, about to start the engine, when he heard the shot. For seconds he sat motionless, as if paralysed, striving to hold and analyse the elusive memory of the sound, not quite certain that he had heard anything at all. The silence of the night had been briefly shattered by one distant stacatto explosion, not very loud, but unmistakable. The direction was anybody's guess, but logically it could only have come from one place.

Panic seized him. It had happened—Hoevler had taken the gun from her and . . . "Kay !" he said aloud, in desperation, then, in a frenzy of action, started the jeep and pulled away with a screech of tyres.

It seemed an eternity before he was braking hard outside the canteen, and another eternity before he had hurled himself through the door. At first glance the room was empty. Afraid to search, but driven forward as if obsessed, he walked among the small tables.

Minutes elapsed before he found the body, and it had been behind him when he had entered, close to the door, at one side. It lay there, among the picks and spades and drills, looking small and pathetic in death, the ginger beard no longer aggressive, and the green eyes strangely vacant, almost as if utterly bored with the turn of events.

She had shot him cleanly between the eyes at close range.

Fatigue swamped Farrant in a cold enervating wave. He eased himself into a chair, and, propping his chin in his hands, stared unseeingly at the dead body of Joe Hoevler. He was not thinking, for any kind of rational thought was quite out of the question, but words and phrases and unformulated ideas were gyrating in jagged patterns across the dark void of his mind. They were meaningless, because he did not require meaning at present, but was content to sit in this state of stark trance, waiting for the shock to subside, to be absorbed in a brain that had already withstood too many shocks.

In due course he lit a cigarette and smoked it blankly, still watching Hoevler, as if waiting for him to reincarnate. Of all the incredible happenings this was the most incredible—not because Hoevler was dead, but because Kay had killed him. And he had given her the weapon to facilitate her task—not that it would have mattered. There were knives enough in the canteen. But Kay, of all people . . .

The thing was impersonal in its choice of slayer and slain, so much was obvious. The determining factor was opportunity—without interference. It had worked successfully and inevitably all along the line, and the final phase was imminent—the one fact that he could not bring himself to face. It was either Kay or himself.

He stepped over to the door, opening it a few inches, and peered into the black night. She may be waiting for you, a warning voice whispered inside the cavity of his skull. She is no longer Kay Kinley. She is some unimaginable entity from an unimaginable future, and her purpose is to track you down and kill you.

Walking out of the canteen he sat in the jeep, his senses alert for the slightest sound that might signal danger. The possibilities were few enough, and clear enough. He could pursue Kay, and disarm her, but in the long run that would achieve little, and she might kill him in the process, or, alternatively, he might kill her. For the present he and she were enemies, and the barrier between them had to be acknowledged and respected. Or he could ascend the hill once more in the jeep and search Earl's clothing for the key to the explosives store, then carry out the original plan to destroy the alien cone. Those were the two alternatives: the choice should have been comparatively simple. The obvious thing to do was to ride the wild wind, move flexibly with the perversity of fate, search a cold corpse for a vital key, blow the summit off the hill, and let Kay take care of herself. But a contrary twist in his nature rejected the obvious. Kay is in trouble, he thought. She needs help. I must find her first, and fix things so that neither of us is in danger, then I can do the big explosives act.

The jeep would be altogether too noisy, he realised, so he abandoned it and set off on a systematic silent prowling of the domestic camp. The night seemed to close in on him, but the moon was rising, and already the huts were taking on

pallid silver outlines, but the shadows were impenetrable, and she could be waiting there—anywhere within a wide radius.

I should have brought a knife, he told himself, then, in revulsion—God, no—that's unthinkable. She might try to kill me, but she's not herself any longer. I can't fight back. I have to take her prisoner if I can, but she must not be harmed.

Soon, realising that she was nowhere in the open, he decided to check the huts themselves, one by one, starting with the most obvious place.

Cautiously he made his way to Kay's billet.

## XV

As he opened the door and went in, the room exploded in an abrupt deafening crash. His left leg went berserk—twisted savagely as if gripped in a gigantic spinning wrench, then collapsed under him. He staggered forward in the darkness and plunged into something soft and resilient that doubled up at the impact and emitted an agonised gasp. Desperately he reached out and clutched at the thing in front of him. His groping fingers closed savagely on a knee.

In an instant, despite the numb encumbrance of his injured leg, he had dragged himself on top of his assailant, unable to see, but recognising the smooth rounded shape of a woman. Kay, of course—it couldn't be anyone else. Swiftly he traced the length of her arms with his urgent fingers and found himself clutching the gun barrel. Teeth bit viciously into his wrist, but he maintained his grip, throwing his weight to one side, and, miraculously, the gun was his. He rolled over and dragged himself to the wall. Painful seconds later he was standing and the light was on.

She was still lying on the floor, wide-eyed and dishevelled, gasping a little, and looking pale and strained in the sudden glare of electric light. He glanced down at his left leg. The white drill of his slacks was stained crimson on the upper part of the thigh.

He made an effort to smile, but the result was wan. "A girl can lose more lovers that way . . ." he said, trying to sound laconic, but the breathless rasping of his voice destroyed the effect and made his voice pungent and desperate.

She got up slowly with a sinuous feline motion and stood, slightly crouched, staring at him with strange inscrutable eyes.

"Kay," he said firmly. "If you can hear me, please don't worry. I'm not going to hurt you. We both know what is happening, and whatever I do will be for the best."

No reply. Only the staring eyes.

"This thing that has taken over your mind—it will pass. But I have to make sure that you'll be safe. For your own sake I'll have to lock you up—tie you up, if necessary."

Kay spoke. It was her voice, but there was nothing of her personality in it. The voice was flat, mechanical, incisive. It said: "Fine, Russ. Tie me up so that I can't move. Then you can kill me."

He looked at the gun with narrowed eyes, then concentrated his attention on the girl. "I'm not going to kill you, Kay. And you're not going to kill me, either."

She laughed without humour. "Can we help ourselves? What's the difference who kills which? You were lucky, Russ. In the dark I couldn't shoot straight, but it doesn't matter. In a moment it will be your turn, and you won't miss."

Deliberately he threw the gun into a corner of the room. Her eyes followed it keenly, noting its position, but she made no move to retrieve it.

"So much for prediction number one," he said. "What next?"

Her eyes remained cold and hard. She made no comment.

"I'm talking to *you*," he said forcibly. "Not to Kay—but to the thing that's taken over. You're out in the open, brother. Let's be honest about it."

"How can you be honest about something you don't understand?" she demanded. "The power is mine, and you are in no position to bargain. You can't win, whatever you do. Kill me, and I shall take possession of you and destroy you. Don't kill me, and I shall destroy you anyway. You're fighting a losing battle, Russ."

"Maybe, but at least I'm fighting . . ."

"Fighting what? You don't even know, do you?"

"Then why not tell me?" he invited.

She remained silent for a while, regarding him with an attenuated, impersonal interest. "Russ," she said presently, "if I were to tell you, you wouldn't understand. Stick to

your simple ideas. They'll serve you for as long as you have left to live."

He managed a thin smile. "Don't underestimate homo sapiens of the twentieth century. I know about you—about time travel. I know why you have come back from the future."

"Which future?" she asked.

He didn't understand the question, and said so.

It was her turn to smile. "You talk of the future as if it were a single thread of continuity stretching through multi-dimensional space. You're so wrong, Russ. There are many levels of time, and there are more futures than there are stars in the universe. Every future is different, but all are real."

"Nonsense!"

"Suit yourself. But at least be logical. If there is only one future then everything is predetermined for all of us. Everything that is going to happen has already happened somewhere in that other dimension. Does that make sense? Does that tie in with human concepts of free will? Or are you a fatalist?"

"The future is what we make it," he said uncertainly.

"The future is what you select," she stated. "And every second of every day you are selecting, and determining the particular path along which your observing ego shall travel."

He shrugged. "You're digging too deep. Are you from the future, or aren't you?"

"Which future?" she asked again. "For that matter, what do you mean by the future? Can you conceive of another kind of time in which all the futures, all the worlds of If exist together? Can you imagine an entity which might be regarded as a guardian of the futures? A kind of temporal police, to protect humanity from itself, to protect the future from the past and vice versa?"

"No, I can't," he said.

"I warned you, Russ. Stick to your simple ideas. There is a purpose in time, and a purpose in entropy, and a purpose in evolution. There can be no short cuts. You can't expect to leapfrog across centuries of human endeavour and hard-won progress and then blithely reap the rewards. It would be immoral, Russ."

"But not so immoral as murder."

She regarded him questioningly, but her voice remained flat and mechanical. "What is murder, Russ? Life is continuous,

in the cosmic sense. One can prune a tree, but the tree continues to thrive."

He permitted himself the luxury of an ironic smile. "The law isn't quite so cosmic in its outlook. In this corner of time and space we don't prune. We prefer to let things grow wild."

"In that case," she commented, "you can hardly complain if a gardener turns up to make things a little tidier—to remove unwanted growths that might choke other plants and spoil the overall pattern of the garden."

"Stop talking in meaningless parables," he said firmly. "I've got one or two hunches about you. For one thing, you're not so powerful as you try to imply, temporal police or not. Sure, you can take over a human mind by some kind of remote hypnosis, but to kill a human being you've got to use the ordinary physical methods of skullduggery and violence just like any of us. That's not so smart. If you were really clever you could destroy by psychological means, but you can't. You need weapons and opportunity, and physically you're no stronger than the body you occupy."

Concentration modulated the featureless gaze of her eyes, and he thought he could detect the first subtle symptom of unease.

"Another thing," he went on, speaking with deliberate truculence, "you're slow. You fluffed that shot a while ago—and at point blank range. Instead of killing me you gave me a leg wound, and because Kay is a woman I was able to get the gun. The odds were on my side—still are. I could have shot Kay, but that wouldn't have destroyed you. Here we are, face to face. What can you do about it?"

No reply, but the staring eyes seemed hollower.

"Not a thing," he continued with emphasis, "not a damned thing. If you were so omnipotent you would immediately have taken over my mind and forced me to murder Kay while I had the gun. Then you would have had me commit suicide as the final move in the game of massacre. But you can't do it, and I know why."

He paused to consider his next words. Suddenly his mind was clear, and the pattern of events during the past two days hung clearly etched in his mind.

He said: "You're operating within restricted and inflexible terms of reference. Your assignment is to occupy, kill and transfer—in that order. And you can't change it. I was the first. When I'd killed Earl you were able to transfer to Strang.

He killed Hilde, and then you moved on to MacClennon. Mac killed Doc Youd, and that released you to take over Hoevler's mind, and he killed MacClennon. Then you took over Kay, and she killed Hoevler. What remains—to take me over again and have me murder Kay? You can't do it—because you've already occupied me once, and it won't work twice."

No reaction—just an increasing sullenness in the set of her attractive features.

"You're like a vaccine, but on a psychological plane. Once you've been injected you set up a reaction, and a kind of spiritual antibody develops. You're stuck, brother. You've got Kay and you have to stay with her until you can destroy me. Am I right?"

Surprisingly she smiled—a warm, welcoming smile. "Russ," she said softly, "I don't even know what you're talking about." She came over to him and put her hands gently on his shoulders. "I thought we were friends."

"That depends on who I'm talking to," he said suspiciously.

"You talk so strangely," she observed, "almost as if you weren't talking to me at all."

Could be that she's herself again, he thought, or could be that she's not. But if the thing has gone, where has it gone? More likely this is just a trick. Maybe I hit the nail on the head with this transfer business, and maybe these new tactics are a kind of pincer movement. What to do, that's the point?

"Russ," she whispered, "why don't you kiss me?"

No—that wasn't Kay—not in a million years. He gripped her arms fiercely and pushed her away from him. "Not so clever," he snapped. "The temporal police have a lousy technique."

"Are you crazy, Russ?"

"Fortunately, yes." He glanced quickly round the hut, pin-pointing his gaze on the bunk with its white sheets. "Kay," he said, "I'm going to tie you up and lock you in this hut. It's for your own good and mine. Later, when I've finished my task, I'll release you."

He went over to the bunk, hobbling slowly on his injured leg, and pulled the top sheet out, then proceeded to tear a long strip off one edge. He was halfway through when the girl moved suddenly beyond his field of vision. Alarmed, he swung round, just in time to catch a brief glimpse of the steel

tube chair as it swung in a glistening arc through the air. He ducked in frantic reaction. The curved legs caught him on the side of the head, just about the ear, but the impact was slight, and merely rocked him a little.

She was going for the gun, but he threw himself at her legs in a clumsy tackle that embodied more force than science, and together they rolled on the floor. And then, as if realising that her frail feminine body could not match his tougher build, wounded though he was, she dragged herself away from him, remained crouching for a moment, staring at him with hostile savage eyes, then, unexpectedly ran to the door.

"Kay!" he shouted, but she had already disappeared into the night.

Painfully he pushed himself to his knees, then, clinging to the edge of the bunk, pulled himself to his feet. His left leg was aching sullenly now as the numbness faded, and it hampered his movements considerably. Stubbornly he forced himself, step by step, to the door. The night was silent and empty.

"Kay!" he shouted again. But what was the use, he asked himself. She wasn't Kay any more, and just at this moment the balance of power seemed to be once again with the thing that had taken possession of her mind. In terms of mobility he was a non-starter. On the other hand, there was the jeep, and that would more than compensate for his damaged leg—provided he got to it first.

Consumed with a sense of urgency he felt his way through the darkness towards the canteen, straining to catch the slightest untoward sound, expecting any instant to hear the abrupt starting of the jeep's engine. But she probably hadn't thought of it, yet. Right now she would be planning the next offensive, perhaps watching him as he limped along—even following him. But for the moment she was unarmed, and if he could make the jeep the balance of power would shift again in his favour.

He made it, safely and easily. Leaning on its cold metal hood and breathing heavily, he surveyed the immediate future. There was nothing for it but to attempt to carry out the original plan, and now there was a reasonable chance that he could break down the door of the explosives hut with the aid of one of the pickaxes which Hoevler had brought along.

He took time off to go into the canteen, where, disregarding Hoevler's still body, he selected a spade, an axe and a drill. These he loaded in the jeep.

Soon, without incident, he was on his way to the explosives hut. It was not until he had reached the blast wall that he remembered he had left the gun in Kay's quarters.

## XVI

The door of the explosives hut refused to yield to repeated blows from the pickaxe, but it loosened measurably on its strong hinges so that he could shake it and feel the amount of give. In another hour, he decided, it would surrender to his attack, but there wasn't the time to spare, nor had he the energy. Returning to the jeep for a few minutes of rest, the obvious solution to the problem struck him suddenly and forcibly. He started the engine and switched on the headlamps, engaged first gear, then drove straight at the door, coming upon it at a slightly oblique angle. The crash shattered the quiet night air. Fiercely he braked, then got out to assess the profits, if any.

The door had split down the centre, and had caved in about a foot, but the steel bands were still holding firm. The offside wing of the jeep was dented, and one headlamp was broken and extinguished. Nevertheless, he decided, the result was promising.

He tried again—and again. Third time lucky. The door broke up and fell inwards, and the front bumper of the jeep rammed the concrete surround. What the hell, he thought—that's what bumpers are for, anyway.

Using the flashlight he went into the hut. The dynamite was stacked in small, roped, wooden crates, and they were heavier than he would have imagined. Carefully he loaded about twenty crates in the back of the jeep, then sought out a supply of slow burning fuse, and, as an afterthought, took along a reel of field telephone wire and a battery-operated detonator unit. He returned to the hut and hunted around for a revolver or rifle, but was unsuccessful in his quest. It seemed unlikely that Earl's was the only gun on the island, but if there were others then they had been carefully hidden away. Possibly they were packed in one of the many crates

lining the walls and the shelves. But he found revolver ammunition, which seemed an ironic touch as he no longer had the gun.

There was no way of locking the door behind him, of course, and there was nothing to prevent Kay from seeking, and finding, a supply of bullets for the gun, if she so wished. That made the odds slightly more incalculable. According to his computations there were only three bullets left in the chambers of the gun, and although that was too many from his point of view, it was nevertheless comforting to know that there was, in fact, a numerical limit to potential death from that source. Now, however, he could not be certain. Best thing would be to avoid the camp so far as might be possible, and do nothing that might bring him into contact with Kay.

The loading of the explosives had taken a considerable time. Checking his watch he saw that the time was well after nine. He felt in the jeep for the whisky bottle and was relieved to find it intact. During the next five minutes he smoked a cigarette and pushed up the alcohol content of his blood in an effort to regain an air of nonchalance and deaden the sustained aching of his leg. Self-assurance began to filter back into his arteries. Things could have been worse, he told himself. I could have been dead, for one thing. As it is I've managed to cut my losses, and Kay's too. The night's programme is still possible—tougher, perhaps, but possible.

He started the engine, and slowly pulled away from the explosives hut, nosing forward beyond the blast wall. The dark, deserted camp crept by on his right, and presently he was ascending the worn twisting track up the side of the hill. The lagoon and the hutments fell away behind him, and ahead was the flat summit shrouded with its tangled undergrowth and stunted trees silhouetted blackly against the luminous stardust of the sky.

He stopped the jeep where the track terminated, close to the trees, and sat for a while, smoking a cigarette and thinking. The most difficult part was to come : virtually one-legged he would have to drag the boxes of dynamite through the jungle to the site of the crater, a distance of some two miles or more. That might mean four or five journeys. Then there was the digging to be done, and the drilling, and the laying of the dynamite charges and the fuse. He felt no inclination to

start work—on the contrary, an enormous lassitude seemed to be creeping through his body, and he found himself seriously doubting whether the efforts were worth while.

You're doing things the hard way, brother, he told himself. In a few hours the island will be overflowing with navy and army security types, and it will be all over bar the big quiz. All you need to do is lie low. Keep out of Kay's way for the night. Stay up here on the hill among the trees and wait for dawn, and let the whole damned business sort itself out. It was a logical thing to do—indeed, it was the obvious thing.

Using the flashlight, and loosening his slacks from the waist, he inspected the bullet wound in his leg. A considerable amount of blood had dried tackily on his skin, so that it was difficult to find the site of the actual wound, but in due course he was able to ascertain that the bullet had, in fact, entered the fleshy part of the thigh from the front and left at the back. The wound was small and neat, and had bled freely, but the bleeding had stopped. He readjusted his slacks, fastened the belt, and climbed out of the jeep.

Still undecided, he shone the torch on the boxes of explosive, biting his lower lip pensively. Kay was probably still in the domestic camp, perhaps even sleeping in her hut, and likely to stay there all night. Why not let things ride? He needed rest himself—lots of it. The dynamiting could wait until daylight—or indefinitely, if it came to the point.

In any case, he thought, it might be a good thing to leave the cone intact for the authorities to see. They would want to examine it, to open it up and take it to pieces—and it might even provide valuable data which could conceivably accelerate the technological development of the Agnes project.

On the other hand—suppose the thing was withdrawn before operational zero. Suppose it were to return to its point of origin in some remote future . . . That was probably on the cards, too, once the lethal assignment had been completed.

Look at it from the alien point of view, he thought. This cone device—obviously some kind of psycho projector—has been shot backwards into time to the here and now so that the Agnes team can be wiped out during the count-down. The whole operation can be accomplished in secrecy, and when the observers return to the island after zero they will find only dead bodies. The cone will have gone back to wherever it

came from, and there will be no explanation of the terrible massacre that has taken place.

So where do we go from here? Two things are obvious. First, the thing inside Kay will make desperate efforts to accomplish its mission before zero—second, it is therefore more than ever necessary to blow the thing up at the earliest possible moment. That way Kay will be released from the spell that binds her, and the cone device will be wrecked beyond return, and security will still be able to examine the fragments.

Sighing wearily, and fighting the exhaustion that was draining the energy from his limbs, he climbed out of the jeep. The move could not have been better timed. He saw the flash from the corner of his eye long before he heard the crack of the revolver, and even as the bullet was ricochetting from the metal side of the jeep he was rolling over and over on the ground, away from the vehicle. He was still rolling when the second flash came, but he did not hear the explosion—it was swamped in a tumultuous thunder as the entire summit of the hill seemed to burst into orange incandescence, heaving upwards and outwards in a tremendous thrusting surge.

He stopped rolling and lay face down in the dirt, clutching his hands around the back of his neck. The shattered hill began to fall upon him, shaking and battering his body with punishing blows, and suddenly it was all over. He lay for a while, half buried beneath loose soil and rock, savouring the kinaesthetic sensation of life in his body, too shocked to be angry, and too depressed to be bitter. Looking around slowly he saw a mass of twisted metal lying angularly in a shallow smouldering crater some seven or eight yards away. Goodbye to the jeep, he thought laconically, not caring much. One problem at least had been irrevocably settled, and the cone had had a last minute reprieve.

It seemed likely that Kay had come straight to the hill, after collecting the gun. That would be her task now, of course: to patrol the summit and protect the cone device, knowing that sooner or later he would attempt to destroy it. There had been two shots, which meant that there was one bullet left in the revolver, unless she had acquired further ammunition from the explosives store. Even so, one bullet could be one too many.

Cautiously he looked around, but the trees were dark and sombre and quite motionless, and nothing moved in the

deeper shadows. Slowly he dragged himself along the ground, pushing his way painfully through the debris, until he was concealed in a patch of coarse scrubby undergrowth, and there he rested for a while, recovering his nervous energy and self-confidence. All the time he listened carefully to the faint sounds of the night. Once he thought he heard the soft crackling of guarded footsteps advancing through the trees, but the sounds faded. Kay may have come and gone.

This is no good, he decided finally. I'm being hunted, and the thing that is animating her won't let up. If I stay here, sooner or later she'll find me. My best chance is to pull out. Chances are she'll stay on the hill, close to the cone thing, just in case I make another attempt to destroy it. On the other hand, if I go back to the camp she may follow me anyway. It's a calculated risk, and the survival odds will be better down below.

Get back, Russ, he told himself. Get back and hide up for a while. You need a breathing space and you need to stop and think. The night is still young and a lot can happen before dawn . . .

Warily, with immense care, he crawled along the vegetation-strewn ground, making his way inches at a time towards the open downward slopes of the hill.

Back in the camp he stood for a long time watching the dark, distant hill, straining his eyes to detect the slightest sign of movement. Eventually, satisfied that he had not been immediately followed, he returned to his own quarters, and blacked-out the shuttered window with folded blankets before switching on the light. Slowly, with trembling fingers, he lit a cigarette.

Next he removed his trousers and washed the blood from his leg, then tore up a clean shirt to make an improvised bandage, binding it firmly so that his leg felt supported. Dressing again in new slacks he was aware of an appreciable improvement in his morale. He switched off the light and peered through the slats of the shutter across the window, but the road outside was silent and deserted.

Putting the light on again, he sat on the bunk and took time off to think. He recognised that he could not play the waiting game, after all. Either way Kay's life was at stake, whether he himself became a victim or not. He was back where he had started, hours ago, with the same assignment

ahead of him, but the difficulties now were much greater. No jeep—and an injured leg—and a load of dynamite to carry up the hill, on his own two feet, with the prospect of being intercepted at any point by Kay—an inhuman, murderous Kay.

He groaned quietly and rubbed his eyes. No point in debating further: he had to destroy the thing before it destroyed Kay, and perhaps himself, too. Here and now, without delay. It would take the rest of the night, but it had to be done. It would demand more energy than he could muster, but it still had to be done. Reluctantly he stood up and, switching off the light, made his way to the door.

The camp was dead in the moonlight. Slowly he dragged himself past the empty huts, heading towards the distant explosives store. At the canteen he paused for a moment, wondering whether to make some strong black coffee to revitalise himself for the task that lay ahead, but he decided that he could not endure the sight of Hoevler's corpse any more. He was sick of death and the dead, sick of himself, and sick of the future. He moved on.

An eternity later, it seemed, he reached the small concrete hut with the smashed wooden door.

## XVII

Selecting his load of high explosive proved to be an almost impossible task, for he had left his flashlight in the jeep along with the camera, and both were now so many fragments of metal and glass scattered over the summit of the hill. He worked in total darkness, choosing the wooden crates by touch, then carrying them beyond the door into the open where he was able to confirm their contents in the pale moonlight. There was obviously a limit to the load he could carry, and that limit proved to be four crates of dynamite. He roped them together, looping the ends of the rope into shoulder slings, and, with great difficulty, hoisted them on to his back. He stuffed a suitable length of slow-burning fuse in his pocket.

He rested for a while after these preliminary exertions, then set off on the long tiring trek up the hill. Without the jeep he was no longer hampered by the terrain, and he decided to ascend by the shortest and most direct route, avoiding the established track, and simply climbing in the straightest

possible line towards the summit. The going was easy enough at first, but his leg troubled him, and as the slope became steeper pain and fatigue began to worry him. He kept moving, biting his lower lip in stubborn doggedness. The dynamite boxes kept swinging and shifting as he moved, and the thin rope slings cut through his jacket and shirt into the bones of his shoulder until he was certain that he was supporting the weight of the explosive on raw severed flesh. But he didn't stop. He sensed that if he stopped he would never resume.

His mind dwelt on the concept of an anaesthetic for a considerable time and he began to see very clearly that he had not made the most of his opportunities. In Doc Youd's deserted surgery were shelves and shelves of bottles, and boxes of drugs, of analgesics and opiates. All the pain and discomfort could have been avoided. A shot of morphine. Aspirins. And penicillin for the leg. Things would have been easier—much easier. On the other hand he might have fallen asleep. Whisky would have done the job just as effectively, and his tolerance to alcohol was pretty high, and there was whisky enough in the canteen stores.

For a moment he was almost inclined to turn back, until he realised that his mind, of its own volition, was indulging in idle fantasy. He dismissed all thought and concentrated on the physical effort of the climb, the contraction of muscles and the elevation of bones against the pull of gravity. Speed—about one mile per hour. Maybe less—much less. On and on throughout the long cool hours of the night.

He was already among the trees before he realised that he had reached the summit, and caution quenched his tired careless movements like a cold shower. He stopped, leaning against the patterned bark of a palm, taking stock of his surroundings, unable to orientate himself immediately. The sky in the east was slowly bleaching into a pallid blue-grey, and the weak colourless light was casting the physical shape of the jungle into a shallow monochrome bas-relief. Visibility was deceptive and tricky : movement abounded, but it was the fugitive movement of weary eyes—an illusion.

He walked on through the trees as the dawn glowed more brightly around him. This is the final day of the count-down, he told himself in an effort to keep awake, and to keep sane. Operational zero. Noon—but advanced by how many hours—to what purpose? Zero minus what? Minus six human

beings. That was the real count-down—in terms of human lives. Eight people, seven, six, five, four, three . . . There were still two to go.

Ruminating this, in a frame of mind modulated by pain and discomfort, he struggled on, not quite certain as to his direction but watching half-heartedly for a familiar landmark or configuration of terrain and jungle that would lead him to the site of the thing—the cone from a future yet unborn.

It was in this abstracted frame of mind that he stepped beyond a tall thicket and found himself face to face with Kay.

Her face was white, like a death mask, and strain was etched in dark lines across her forehead and around her eyes. Her white blouse and skirt were creased and dirty, and there were scarlet scratches on her arms. She held the revolver in her right hand, but the fingers were tenuous and trembling, and he observed that she was not yet holding the trigger. The barrel was pointing down, to the right of his feet.

He was motionless, quite petrified. There was no recognition in her eyes—just the subtle glistening of a predetermined malevolence. Kay's body—but not Kay. And it came to Farrant, quite suddenly, that she was on the verge of collapse, sustained only by the determination of the thing that possessed her. A shell, an automaton—a puppet waiting for the peremptory pull on the strings. At all events—still waiting.

Quickly he slipped the dynamite load from his back, allowing it to strike the ground with unintended force. They eyed each other for an eternity of two seconds.

This could be the pay-off for both of us, he thought. Here and now—a quick bullet into the dynamite—and nothing would remain. Futurity would have achieved its object. But there was a sluggishness in her, an overall lack of response, that allowed a little leeway. Carefully he moved away from the crates of explosive.

Her eyes were fixed on his, without recognition or reaction, and in a moment she began to raise the gun, moving her finger over the trigger. It was a ballet in slow motion. Surprise registered distinctly in his brain. There are limits, he realised—the thing is weighed down by the restrictions of human flesh and physiology. Kay is exhausted, and the thing inside her can only operate within the boundaries of that exhaustion.

Rapidly he assessed the possibilities of the immediate future. Another five seconds and she would shoot—no doubt about

that. The last bullet, maybe, but even that could resolve the situation once and for all in the wrong way. The barrel was level now, and pointing towards his heart. He clenched his fist and swung his arm.

The click of her teeth under the impact of the blow seemed to resonate in his brain. She rocked backwards, and he went after her, reaching for the gun. Surprisingly, she swung around, away from him, so that he was only able to seize her waist ineffectually; a moment later her leg flashed backwards and the hard heel of her shoe crashed into his wounded thigh. He collapsed abruptly, his consciousness almost obliterated with acute pain, but an instant later he recovered his presence of mind and clawed at her ankles. She fell heavily, half sprawled across him, and the gun ran wild, spinning into the undergrowth. He struggled to push her away from him, but she was heavy and awkward, and her face came close to his for a while, pale and inert. Relaxing, he seized her arms and kissed her.

"Kay," he said urgently. "Kay—this is Russ. Listen to me. Pull yourself together . . ."

He tried to kiss her again, but she bit his mouth savagely, drawing blood from his lower lip. Fool, he told himself—what do you think you're playing at? This is no game—this is the prelude to cold murder.

Reluctantly, and not without a feeling of horror, he bunched his fist and struck her on the jaw, again and again, until he felt her body sag limply across his. Kay, forgive me, he asked in a silent prayer. What I am doing is for both of us—for you and me—for our future together, if there is any future.

He thrust her body aside, and crawled around on all fours in search of the gun, but it was not visible. Frustrated, he stood up, holding on to the jagged limb of a tree for support. Somewhere among the coarse grass and sparsely clumped vegetation was the gleaming metallic shape of the gun, and it was essential that he should find it—but in the semi-daylight it eluded the desperate scanning of his tired eyes. I saw it fall, he told himself: it rolled a little, obliquely, not more than a few feet—it must be here, within a small circumscribed area. But that was before we struggled—before we heaved our bodies across the green and brown floor of the jungle.

Frantically he cast about, thrusting aside the small plants and the scrub, but the revolver remained hidden, and very

soon he gave up. There was no time to waste. Disarmed, Kay was no longer a potential danger, and he could deal with her on a person to person basis, relying on his greater strength to secure the necessary advantage. The gun was lost to him, and therefore lost to both of them—that seemed axiomatic enough. He decided to leave her where she lay and concentrate on the remainder of his programme.

Conscious of the undermining erosion of sheer physical fatigue he knelt down and pushed the rope slings of the dynamite crates on to his raw shoulders, then struggled to his feet, using his hands to ease the immense weight on his back. Not far now—a mile, half a mile or perhaps only a few hundred yards—but in which direction? Impossible to tell. But keep going—on and on. Sooner or later the small jungle would click into shape, into a pattern . . .

Painfully he walked away, deliberately forcing his legs into step after step, abandoning Kay where she lay. She was safe enough for the moment. In the course of time, and with luck, he would be able to make it up to her. Once he had completed his self-imposed task there would be years enough to make up. But for the present . . .

He stumbled on in search of a four-foot circle of rough ground.

A curious object was hanging from the branch of a stunted tree—a rectangular brown fruit suspended by thin creepers, swaying slightly in the morning breeze that sighed across the hilltop. Not a natural growth, he realised in due course, but a man-made object—a leather case, for instance, hanging from a strap. A moment later he recognised the thing as one of his cameras, and with the recognition came memory—he had indeed left a camera behind on the last visit to the site of the cone device and Earl's grave. It was a landmark—more than that, a tombstone.

He came upon the crater within seconds: the loose mound of soil excavated with his bare hands, the curiously distorted body of George Earl already showing signs of putrefaction, and the shining metallic object in the vast cavity. Horror penetrated the weariness that lay deadeningly and protectively across his mind. He slipped the dynamite load to the ground, then recovered the camera, breathing a word of thanks to the impersonal deity that had arranged things so that he could still make a record of the final act of retribution—if you could call it that.

He judged the light and set the lens and aperture accordingly, making due allowance for the slow speed of the colour film in the camera. The frame counter showed eleven shots still unexposed. Enough, he decided. He used six of them in photographing the immediate scene—Earl, the crater, and the thing still buried deep in the ground. Then, discarding the camera he set to work on a deliberate programme of excavation.

Minutes later he uncovered a spade. Observing the dark brown stains of dried blood, he realised that this was the murder weapon that had destroyed George Earl, but there was no longer any revulsion in him—on the contrary, he felt grateful for the spade. It would accelerate the job he had to do.

The thing was bigger than he had anticipated. As the sun rose incandescently into the cloudless sky he found himself some ten feet below ground level, and still the thing was buried, though how much further he had no way of knowing. It was vaguely cylindrical in shape, below the coned tip, but cylindrical in a curious twisted way, like a rocket that had been melted in a furnace, losing its rigidity and melting into something quite non-functional in terms of ordinary ballistics. But, he reminded himself, this was not a space projectile—according to the late Hœvler this was a missile designed to travel at unimaginable speed through a distorted kind of space that traversed time itself. Perhaps the shape of the thing was determined by mathematical functions of some kind of hyper space—time streamlining, if you liked.

At this point he paused to take more photographs. Scientists would in due course pronounce their own interpretations of the physical aspects of the thing. At all events he was carrying out his assigned task—to make a record of whatever was worth recording during the Kaluiki count-down. He smiled at that. What count-down?

## XVIII

He stepped out of the pit to survey the overall results of his efforts. Deep enough, he thought. The thing can't go down much further. A ring of dynamite charges positioned around the periphery of the shining hull should do the trick. Tamped into the ground, of course, to heighten the destructive blast. Drilling would probably help, but there wasn't time, and that plated metal didn't look amenable to an ordinary

twist drill, anyway. It would probably take a high-speed diamond-cutter, or ultrasonics, to make any impression on it.

Carefully he unpacked the sticks of dynamite, grouping them in clumps of four with a common detonator, and attacking lengths of fuse. This was fiddly work : his fingers were clumsy and unresponsive, but in the end he achieved his purpose. With the spade he dug a ring of cavities around the time projectile and packed the dynamite in, stamping the dry earth into place, but taking care not to dislodge the fuse. When he had finished there were about a dozen lengths of fuse snaking over the ground like yellow cord. An unprofessional job, perhaps, but it would work. He joined the fuse ends together, attaching a single long length which he trailed out of the pit into the spiked grass beneath the trees. Then, relaxing for a moment, he lit a cigarette. Three seconds later, after inhaling deeply, he ignited the end of the fuse.

He exposed three more frames of colour film, then, slinging the camera around his neck, turned his back on the pit and made his way through the trees. Thirty seconds to go—plus or minus the odd fragment of time. The end of a very strange and lethal chapter in a very strange project—but at least he and Kay would be alive to tell the tale.

One final glance round before hurrying into a declivity to shelter from the imminent blast, and, instantly—frantic alarm and transient paralysis. Kay was there, balancing on the edge of the pit, holding the revolver in her right hand. A moment later she was climbing down into the hollow, to where the burning fuse spluttered over its last few feet. Without thinking he knew what she was going to do.

“No . . .” he breathed incredulously, then, louder: “No !” He began to hurry back to the pit, dragging his injured leg across the uneven ground, cursing the pain and weakness of his limbs. “Kay !” he shouted as he drew near. “Kay !”

And then he was at the edge of the crater, half kneeling, supporting himself on one hand. And the girl was looking up at him, half smiling, as if to say, “This is the end, Russ. I’ve won, and there’s nothing you can do about it.” She was holding the length of yellow fuse in one hand, but it was still burning actively. In the other hand was the gun, and as he stared she raised it steadily.

If I jump I may make it, he thought, but even as the impulse was telegraphed from brain to limbs he realised it was too late. Destiny had worked against him all along. Even when

he had knocked her unconscious an hour or so earlier he had been deprived of the gun, yet she had found it again—it might have been beneath her body all the time—and he hadn't even thought of looking. Somehow the exhaustion in her was not so evident, and she seemed to be animated by a brittle electric energy. And there was no mistaking the cold determination in her narrowed eyes.

Defeated and desolated, he waited for the quick flash from the barrel and the staccato crack that would precede the impact of the bullet, but it did not come immediately. Suddenly he realised that she was not even looking at him, for her attention was directed elsewhere, and at the same moment he became aware of a strange sound throbbing in the air—a pulsing feathery sound, as of machinery and wind, out of key and out of context. Now she was looking up into the sky, and he did the same. There was nothing to see—not until he turned round—and then, unbelievably, there it was, above the trees, distant enough but quite unmistakable—the helicopter.

His next movements were reflex. He spun on one leg and flung himself into the pit. As he crashed into the girl the revolver exploded in his face and the bullet whined harmlessly through the jungle. The struggle was brief and intense. Handicapped by his leg he found himself outmatched by the venomous wildcat in his arms. She thrust herself against him, forcing him backwards so that he stumbled and fell, and then she was standing over him, holding the gun by its barrel, arm upraised. In a final wild sweeping glance he saw that the fuse had already burned back to the junction, and the sputtering fire was creeping underground towards the ring of dynamite charges.

The blow never came. She was still standing over him with upraised arm, and the reversed gun glinted ominously against the sky, but something had gone out of her face, some subtlety of expression, of purposefulness. His mind spun to comprehend the blankness, the bewilderment, in her eyes. A wind sighed and swirled suddenly in the crater, and, looking beyond her, he observed that the shining projectile had gone. Only a clean circular hole like a shaft cut into the ground indicated that it had ever existed.

An alarm bell sounded stridently and urgently in his brain. Quickly he pushed himself to his feet and grabbed her arm. Not understanding, but allowing herself to be pulled along,

she followed him out of the crater, and somewhere along the way she dropped the empty revolver.

His mind was obsessed by the image of a dozen burning fuses. Inches to go—perhaps less. Beyond the first tree he flung the girl to the ground then lay flat across her, and waited.

“Russ . . .” she murmured, but he put his fingers across her mouth.

The final seconds of silence lasted for a thousand years, it seemed. He could hear the sound of her breathing, and the pounding of his own heart, and the keen vibrant noise of the remote helicopter. I’m not counting the seconds, he thought irrelevantly, I’m counting in smaller units—in hundredths of a second—even less.

The explosion when it came, was not so terrifying as he had imagined it would be. The noise seemed to be swamped by the concussive shaking of the ground and his own body. A vast black shadow hurled itself across the sky and the trees reflected bright orange flame. Neither of them felt the debris when it began to fall . . .

I know you, Farrant thought idly. I recognise that fair wavy hair and that too pink boyish complexion, and the uniform is familiar. It must have been a century ago when we last met, and I’m damned if I can remember your name. But hello, anyway, stranger.

Lieutenant Frieberg shook Farrant’s shoulder. “You conscious?” he asked.

Farrant managed a nod. The room was familiar. In due course he identified it as the small sick bay adjoining Doc Youd’s surgery.

“You’re lucky,” Frieberg commented laconically. “You couldn’t have got nearer to that explosion if you’d tried.” Then after a pause: “Well, relax, anyway. You’re going to have to do a whole lot of explaining . . .”

“Kay?” Farrant asked weakly.

“Right next door,” Frieberg said, inclining his head. Farrant glanced to his right. She was lying on the next bed, still unconscious.

“Is she—all right?”

“Exhaustion mainly, I think.”

“What’s happening now, Lieutenant . . .?”

Friberg waved an arm around the room. "This is a temporary set-up. I've sent Sergeant Gant back to the carrier in the 'copter. In just no time at all this place will be swarming with security and brass hats."

"Did you . . . find the others?" Farrant asked quietly.

"The hell I did. Where are they all, Farrant?"

"Mainly in the canteen."

"Doing what?" Friberg demanded impatiently. "I don't understand what's going on at all. What's the position on the count-down?"

Ah, yes—the count-down, Farrant thought. The automatic, impersonal, sadly neglected count-down. Well, what *was* the position? Kay might know—but it would take time to find out. He attempted to sit up, and Friberg took his arm to support him.

"Take it easy," said Friberg.

Farrant nodded.

"Well—what is the position?" Friberg persisted.

"It's a long story," Farrant murmured with little enthusiasm.

"An impossible story."

Friberg eyed him doubtfully. "Maybe I'd better talk to Guy Strang."

"Strang is dead. They're all dead. You can't talk to anyone—except Kay and me. Good thing you came when you did, though you left it a bit late."

"Now wait a minute, Farrant. Are you crazy? Do you know what you're saying?"

"You want me to repeat it?"

"But—you can't be serious . . ."

"They're dead," Farrant repeated flatly. "What brought you here anyway. The radio cabin is wrecked."

"We picked up a big explosion from the island an hour or so before dawn. Thought it might be trouble with the reactor, so Gant and I were ordered to fly over and . . ." Friberg broke off suddenly. "If they're dead," he said in a voice that implied disbelief, "then who killed them?"

"That is the difficult part," said Farrant wearily. "If you don't mind I'd rather try to explain to the brass hats when they arrive."

"Was—was it *you*, Farrant?" asked Friberg in a phantom voice, his eyes widening a little.

Farrant shook his head slowly. "Nothing so simple. What's the time?"

Friberg referred to his wristwatch. "Just after eleven-ten."  
"Almost zero."

"In theory. Tell me—where *are* the others?"

"Hoevler's on the canteen floor, and the rest in the deep-freeze store. Except MacClennon. He's on the catwalk in the reactor room. And Earl's been blown to pieces—what was left of his corpse."

Friberg's face was a dark, incredulous mask. He moved towards the door. "You stay here, Farrant. I'm going to check up . . ." An instant later he had gone.

Farrant did some slow mental computing. Almost certainly Lieutenant Friberg would make the full tour, from canteen to reactor room and base to the sick bay. He wouldn't want to miss a single trick, and his excursion into the realm of violent death would almost certainly shake his self-possession. Allow him half-an-hour, at least. The helicopter might return any time, but it seemed probable that Sergeant Gant would have a great deal of explaining to do to the upper brass, and that would take time—maybe much longer than half-an-hour. Finally the ships must come—a destroyer, perhaps, and a few high-speed launches, bringing the first official representative of outside authority. More than an hour—maybe two. There was still time to do what had to be done before officialdom intervened.

He leaned over Kay and shook her gently but persistently until she stirred and opened her eyes.

"Kay," he said urgently. "Kay."

"Russ . . ." she whispered. "Then it's . . ." A transient look of bewilderment in her hazel eyes. "Darling—what's happened . . .?"

"You wouldn't remember. Don't worry about it, anyway. We've got work to do."

"Where's Joe?"

"I'm afraid he's dead."

A fleeting expression of alarm and horror. "But, Russ—that means . . ."

"No," he stated firmly. "We're all innocent of murder—all of us—the dead and the living. The true killer managed to pull out just before we exploded the dynamite charges."

"You mean—the cone?"

"Yes. We failed. We would probably have failed, whatever happened. It disappeared, with seconds to spare." He

paused reflectively. "On the other hand, it failed too. It returned to wherever it came from, mission not completed."

"Then—it will return?"

"Could be. As I see it there's only one thing that can prevent it. That's to finish the count-down as planned and launch the Agnes rocket. After that I don't think there'll be any further interference."

She rolled painfully off the bed, and he helped her to stand erect. "How do you feel?" he asked.

"Awful," she replied, smiling faintly. "But game."

He kissed her quickly but gently on her lips. "Then let's not waste time, honey. You take the reactor and I'll check on the rocket. I'll ring you from the launching pad."

"All right, Russ. But I can't handle the reactors and the radar monitors, too . . ."

"Let's forget about the monitors. The important thing is to get the rocket launched, for better or for worse."

She nodded agreement, and they went out into the morning sunlight.

## XIX

The ghost of Joe Hoevler seemed to be whispering in every metallic echo that reverberated inside the hollow shell of the projectile. The atmosphere was unreal and other-worldly, so much so that Farrant found himself glancing warily around from time to time, imagining swift bat-like movements in the deeper shadows beyond the girders and dural buttresses. The job was routine enough: months ago on that emergency stand-in course they had taught him the basic count-down drill, though he had never imagined he would need to put his knowledge to practical use. The drill returned sluggishly into his memory, but in the course of time he switched on the necessary circuits and checked the warning pilot lights, and heard the smooth humming of the equipment as it took up the electronic load.

It was doubtful whether all of the ancillary apparatus such as the radar trajectory beacons and data instrumentation was fully operational, but it was no longer important. So long as the anti-grav devices worked first time, then the rest could be accomplished next time, if there ever was a next time.

Satisfied, though not exultant, he climbed out of the rocket, sealing the service port, and descended the gantry in the

elevator. From a concrete observation post near to the launching pad he rang the reactor room on the internal line.

"That you, Farrant?" said Frieberg's crisp voice.

Farrant groaned mentally. Damn Frieberg. Interference at this point was intolerable.

"Speaking," he said. "Let me talk to Kay."

Frieberg's voice was hard and stony. "Nothing doing. The count-down is off."

"Don't be a fool, Lieutenant . . ."

"Look, Farrant—right now the technical side doesn't matter. There are six people dead and you've got a deal of explaining to do. Better come over here right away."

Farrant hesitated, then made up his mind. "Okay. I'll be right over."

He set out on the tiring walk to the reactor block, hurrying his aching feet, not thinking very much about the situation, but aware of a bleak tightness in his mind. Of all the lousy luck—to have Frieberg upset things at this stage. But there was nothing to be done other than take the jumps as they came. At all events the rocket was ready to go. Everything depended on the reactor.

Frieberg was pacing the reactor room as if on guard patrol, while Kay sat passively at the control console. They both stared at Farrant as he entered—Kay with hopeful speculation, Frieberg with restrained truculence. The pacing stopped.

Farrant went over to the girl:

"Did you have time to check, Kay?"

"Yes." Her voice was little more than a whisper. "You remember MacClennon tried to speed up the reactor count-down. Well, he cut about two hours. It's already higher than critical level."

"Farrant!" called Frieberg sharply.

Farrant ignored the Lieutenant. "Does that mean we're ready to go?"

"Dangerously so, Russ. We might burn out the energy converters."

"Can we take that risk?"

"I don't know."

"What's the alternative, Kay?"

"To cut back the reactor banks—let it cool down for a couple of hours . . ." Her eyes were looking beyond him, and he sensed the warning in them.

He swung round as Frieberg reached out to grasp his shoulder. There was anger in the younger man's pale eyes.

"Farrant—I'm talking to *you*. The count-down is *off*. And pending investigation I'm putting you under arrest."

"The hell you are," Farrant said softly.

"Now I don't want to have to get tough," said Frieberg, unbuttoning the leather holster of his revolver.

"I wish I could say the same," Farrant breathed. He swung his fist with all the energy he could muster. The Lieutenant's jaw clicked hollowly. As he staggered back Farrant followed up the assault, and in a moment the other man lay sprawled on the floor, frosty eyed. Farrant took possession of the gun.

He turned to Kay. "This is operational zero, honey. Give it the works, come heaven or hell."

She smiled wanly, a little uncertainly, then turned to the instrumentated console and moved her hand over the coloured switches.

From the entrance to the reactor block they were able to watch the launching. Once the control switches had been operated the take-off preamble proceeded according to a predetermined automatic schedule, pouring energy into the vast storage condensers of the energy converting equipment, ready for the instant of release in the form of a high tension electrostatic field around the rocket. Time ran out quickly into the final seconds of the count-down. Glancing at his watch Farrant made an approximation, mentally checking off the numerals—five, four, three, two, one—and zero was now.

Nothing happened. The distant rocket stood silently poised in the enmeshing gantry, reflecting the harsh glare of the morning sun. His timing was out, he concluded. It had been impracticable to start the mechanical count-off relay signal, so that there was no precise way of knowing exactly when zero would occur.

They waited arm-in-arm, watching the monochrome pattern of the remote launching pad. Slowly he took Kay's hand, and interlaced his fingers with hers. Now there was a curious low-pitched hum resonating in the air, like the throb of an immense dynamo buried deep in the ground, and it seemed to him that the silver shell of the rocket was brighter, as if developing an inherent luminescence.

"Russ—the rocket . . ."

Blue fire was a diffuse glowing aura surrounding the rocket and the gantry, growing brighter and brighter until the sunlight itself looked yellow and sallow in contrast. And inside the incandescent blue sphere the slender shape of the rocket took on a twisted distorted aspect. And then the fire burst into an immeasurably brief peak of brilliance—like a photoflash—and the throbbing thunder stopped abruptly. Farrant found himself temporarily blinded. Vision was obliterated by a dense yellow cloud that hovered fugitively in front of his eyes—the reaction from the intense blue flash.

A wind was blowing and sighing across the island, sweeping over the baked ground towards the launching pad, but he still could not see clearly. Something moved in the yellow fog. He reached out and found himself touching Kay's arm, and at the contact she came closer to him.

"Is that you, Russ?" she asked. "Something's happened to my eyes."

"Me, too," he said.

"Hey, Farrant!" came Frieberg's perplexed voice, from the direction of the doorway. "Farrant—where are you? What goes on?"

"It's all right," said Farrant. "We're all dazzled, but it'll pass."

"What happened?"

"I guess the rocket blew up," Farrant said uncertainly.

"You mean you blew it up. What's your game, Farrant? Sabotage?"

The fog was beginning to clear now. He could see the tall shape of Frieberg fiercely rubbing his eyes, and Kay looking towards the launching pad.

"Lieutenant," she said quietly, "there's no question of sabotage. Russ and I completed the count-down, that's all, but things worked out differently from what we expected."

And now Frieberg was peering towards the launching zone, too. Farrant found himself intrigued by the increasing bewilderment in the other man's face. The fog had cleared, so he turned to see what Kay and Frieberg could see.

There was nothing. The rocket and the gantry and most of the equipment in the immediate vicinity had vanished, and the area was level, as if the launching pad had never been. There was still, it seemed to him, a certain subtle luminescence hovering in the air where the rocket had been—a kind of indefinable scintillation in space, modulating the blue-white of the sky.

"Not a thing left," Frieberg breathed incredulously. "Not a goddam thing."

Farrant exchanged glances with Kay; she, too, looked puzzled and rather thoughtful. For himself, he could think of no possible explanation. Except that, as he had already suggested to Frieberg, the rocket had blown up. And yet it couldn't have been an explosion in the ordinary sense, for there had been no detonation, and no blast.

"What do you think, Kay?" he asked.

She shook her head. "I haven't had time to think at all. But I've got a feeling . . ."

"Well?"

"Let me put it this way, Russ. The Agnes project has worked, but in a way we couldn't have imagined. We've uncovered something very strange—the very thing they tried to stop us from finding out . . ."

"You mean—what we have just witnessed is the reason why Strang and the others were killed?"

"I think so, Russ."

"Let's hear more about the killing of Strang and the others," Frieberg said firmly. "Seems to me one of you two did it—and that must mean you, Farrant. I can't imagine Kay killing anyone."

"Just stop imagining, Lieutenant," Farrant said impatiently. "There'll be an inquiry in due course, and those concerned will dig out the truth."

Frieberg scowled. "The island is full of dead bodies. All I'm asking is who killed them? If it was you, then it's my duty to put you under arrest."

"Sure. I see your point. But it wasn't me, and it wasn't Kay—not in the way you mean. The real killer has gone—perhaps for all time."

"Gone where?"

Kay said: "Gone where the Agnes rocket went."

Frieberg stared at her blankly.

"But don't ask me how or why, Lieutenant. I'm still trying to add it all up. You saw the Agnes count-down successfully accomplished, but something came to this island to try to prevent it, and that something destroyed every member of the team except Russ and me. I think it would have got us too if Russ hadn't taken a grip on the situation."

"I don't get it," Frieberg complained. "I'm damned if the count-down was successful. The damned rocket exploded on

take-off, if you ask me. And nothing could have come to this island, or left it again—that wouldn't be possible."

"Nevertheless—that's what happened. The explanation is . . ." She broke off and turned, looking into the northern sky.

The others heard the sound, too — a faint steady droning from afar, and they searched the sky with their eyes. Frieberg was the first to see it, for he was accustomed to such recognition.

"The helicopter," he announced triumphantly. "That'll be Sergeant Gant with one of the top brass. Now we'll be able to get at the truth."

Farrant caught Kay's eye : they exchanged ironic smiles.

"And if you don't mind, Farrant," Frieberg went on, "I'll have my revolver back."

"Sorry," Farrant murmured. He returned the gun to the Lieutenant.

Eight minutes later the helicopter settled down on the concrete landing ground beyond the obliterated launching pad, and at the same time the silhouette of a destroyer crept over the thin line of the curved horizon.

## XX

They held the preliminary investigation in the canteen, in the late afternoon, after Hovler's body had been removed, and after the contents of the deep freeze locker had been transferred to the destroyer. Kaluiki had, in effect, been invaded and occupied by the Navy, and the young men in white tropical uniform were everywhere. In the canteen they moved the small tables into the shape of a solid horseshoe, and around four o'clock eight officers of Naval and Army rank sat around the outer periphery of the crescent, equipped with pencils and notepads. In charge of the summary inquiry was tall, grey-haired Colonel Daker, chief of security in the Kaluiki operational zone.

They interrogated Kay first, questioning her for nearly two hours, and minutely recording her evidence. Then they called in Farrant. He found himself sitting in the centre of the horseshoe, surrounded by what was commonly known as top brass, but the atmosphere was cordial enough.

Colonel Daker said : "This is in the nature of a formal investigation, Farrant, but strictly informal, if you see what I mean."

"Not exactly," said Farrant.

"Well, we are acting without specific authorisation from Washington and London, but we are acting, none the less. We are taking the inevitable and logical first step in what looks like being one of the biggest and most controversial investigations in all military history."

Farrant nodded, but made no comment.

"In a sense, Farrant, we are anticipating the kind of official action that will be demanded at a later stage. The more we can put on record now, the easier it may be for you and Miss Kinley in due course."

"I'll tell you all I can," Farrant said.

Daker leaned forward massively, transfixing Farrant with cold, keen eyes. "We want you to tell the story of the count-down in your own words. Omit nothing. Every detail is important."

"I can do better than that," Farrant said with quiet confidence. "I can support my statement with irrefutable evidence. I have colour photographs to prove what you might think to be—sheer fantasy."

"Can you produce them?"

"I can produce some, but the majority are exposed negatives awaiting processing."

"In that case I'd be obliged if you would hand over to me all exposed photographic film, processed or not. I'll have it rushed to base and dealt with on a priority basis."

"All right, Colonel—I'll do that."

"And now," said Daker. "Let's start at zero minus seventy-two."

Farrant told the whole story as he remembered it, omitting nothing. Eight pairs of eyes studied him intently, and eight pencils scribbled notes on white pads. Occasionally they broke into his narrative to ask a question or amplify a point of fact. Their manner was objective, and perhaps just a little sceptical, which did not surprise him.

When he had finished talking, Daker said: "I take it you have photographs showing this cone-shaped metallic object, Farrant?"

"Yes."

"Good. Without them your evidence, and, indeed, Miss Kinley's would be rather difficult to accept."

"You're suggesting that perhaps we are acting in collusion?"

"Not in the least. All I mean is that both of you have described a phenomenon which conflicts with reason. Six people have been killed, and both of you have declared that some kind of superhuman agency was responsible. That would be difficult to accept, Farrant, as you will be the first to admit. But if you have photographs, then that presents the story in rather a different light. At the very least they will tend to authenticate your evidence."

"Well, thank you, Colonel," Farrant said with faint irony.

Daker allowed himself to smile briefly, almost curtly. "I'm not being deliberately sceptical, Farrant—indeed, it's not my job to form any opinion whatsoever. The terms of reference of this Court of Inquiry are simply to collect evidence to show, from minute to minute, so far as is possible, exactly what happened during the count-down. We are concerned only with matters of fact, and matters of observation. Naturally we welcome any kind of material corroboration, and I personally commend you on having the presence of mind to take photographs. They may well prove to be the foundation stone which will support both your evidence and that of Miss Kinley."

Farrant said nothing. Better, he thought, to let the Colonel do the talking.

"You allege," Daker went on, "that some undefined entity from the future—I believe you said the future . . . ?"

"Hoevler was the first to suggest it," Farrant said. "Later we had to admit that he was almost certainly right."

"Very well. An entity from the future sought to interfere with the count-down and destroy the Kaluiki team by some kind of psychological possession. As to motive, you suggest that the actual moment of launching of the Agnes rocket would—and did—reveal some unsuspected scientific truth of vital importance, and that the entity from the future was, in fact, assigned to prevent that very discovery."

"That is substantially true," Farrant conceded.

Daker ran the tip of his forefinger across his lips and regarded Farrant pensively. "At the instant of operational zero, according to your statement, the rocket simply vanished."

"Yes, Colonel."

"Not only the rocket, but the gantry and a substantial quantity of ancillary equipment falling within the electrostatic field in the vicinity of the launching pad."

"That is so."

Daker considered his words carefully. "Did you see the rocket move at all?"

"No."

"There was no approximation to a conventional take-off?"

"None whatever."

The Colonel referred again to his notes. "According to Miss Kinley the rocket could not possibly have moved in space. On the other hand, to have moved in time would have required an almost instantaneous acceleration to something beyond the speed of light."

Farrant shrugged. "You're going over my head, Colonel. I never did understand this Lorentz-Fitzgerald business."

"You're in good company," Daker said wryly. "However, the fact remains that the rocket disappeared—if not into space, then where?"

"I wouldn't know."

"It doesn't matter. As from tomorrow experts will inspect every inch of the island, and run fine-toothed combs over what's left of the launching pad. They'll find the answers. Meanwhile . . ." He paused, eyeing Farrant reflectively.

"I take it Miss Kinley and I are more or less under arrest?"

Daker pursed his lips, then licked them with the tip of his pink tongue. "Arrest is a harsh word," he said quietly. "Much better to regard yourselves as important witnesses under special security surveillance. Tonight you will be accommodated aboard the destroyer, and tomorrow—well, we shall see. I imagine you will be flown back to Washington on a top priority ticket."

Daker stood up with an air of finality. "You may go, Farrant. You'd better spend your time packing. You may be transferred to the destroyer any time at all."

Farrant nodded, then left the canteen.

He went immediately to Kay's quarters, and found her already packing a large trunk. They kissed, a little formally and eyed each other with a certain air of melancholy.

"How did it go, Russ?" she asked.

"Comme ci, comme ca. The photographs will clinch matters. I can't blame the Colonel for being sceptical."

"What's going to happen to us?"

"Apparently we spend the night on the destroyer, and tomorrow we fly to Washington."

She smiled. "I think I'll like that. Pacific islands are fine—in moderation."

"Kay," he murmured, taking her hand, "you and me . . ." She nodded, understanding. "We had a raw deal, Russ. Fate certainly wasn't on our side."

"We can start all over."

"That's what I was hoping you'd say."

"Back in civilisation, where we can have fun, and do things in style."

"Count me in. I'm in favour of fun."

They kissed again, rather less formally.

"I haven't got photographs to prove it," Farrant said, "but I love you, Kay."

She regarded him solemnly. "Without photographs, how can you expect me to believe you, Russ?"

"You sound like Colonel Daker."

"And you talk too much. Kiss me again."

He complied.

Presently he said: "In the last analysis, Kay—what does it all add up to?"

"That we love each other."

"I meant the rocket—the end of the count-down."

She sighed and turned away from him. "I wish I knew. I abhor a mystery. In science there is always an explanation for the inexplicable. And yet . . ."

"I didn't see the rocket at the instant of zero," Farrant said. "I was mixing it with Lieutenant Frieberg. What happened exactly?"

"Difficult to say, Russ. A flash of incredible brilliance. A kind of twisting of the shape of the rocket behind the blue haze—and then nothing."

"Let's suppose that the test was successful. Let's assume that at zero an anti-gravity field was established. Can you reconcile that with what actually happened?"

She sighed abstractedly. "I've thought and thought about it, Russ. I've tried to equate it all against Einstein and Lorentz-Fitzgerald. Candidly, I got nowhere fast. We seem to have come upon some kind of extra-physics—maybe dimensional physics. At all events—something that conflicts with terrestrial physics as we know it."

Farrant thought deeply for a moment, then said vaguely: "Kay—how could a projectile achieve the speed of light without moving?"

"It couldn't," she declared flatly. "On the other hand, that's what happened, if one can believe one's senses."

"I was wondering," he said. "When I was at school I was pretty good in physics and mechanics, and . . ." He hesitated, making a gesture of disparagement with his hands. "It doesn't matter."

"Tell me, Russ," she insisted. "What did you have in mind?"

"Well—looking at the anti-gravity project in the simplest possible terms, it occurred to me that the whole purpose of the project was to render the Agnes rocket weightless—that is, in the first instance, under conditions of neutral or zero gravity."

She nodded. "That was the general idea, Russ."

"Okay. Supposing it succeeded—supposing the rocket became weightless. I always understood that a weightless object possessed no mass and no inertia."

He considered his words for a moment. "In that case . . ." His voice tailed off as he pursued the elusive idea through the labyrinths of his mind. "If you apply a force to a weightless object, with zero inertia, surely you get an infinite acceleration."

She blinked at him, not fully understanding, her thoughts running introspectively in a compulsive groove. "That's right. Zero inertia means infinite acceleration."

"Well, couldn't that have happened to the Agnes rocket? At the moment of zero gravity the thing was weightless, but when the power built up beyond the neutral point . . . Weren't we applying a powerful force of inverse gravity to an inertialess object?"

Her expression changed, slowly and subtly. "That's exactly what we did. From the weightless condition the projectile shifted suddenly into a state of infinite acceleration—and that means it would achieve the speed of light—*without moving*."

"But how?" Farrant demanded, not understanding.

"Russ," she said excitedly, "you've hit on the essential truth. Here's me with all my mathematics, completely lost, and you, with your elementary mechanics elucidating the whole problem. And it's so simple!"

"Not to me, darling."

"Don't try to understand it, Russ. It's a thing as abstract and unreal in its own way as the Lorentz-Fitzgerald contraction, but just as vitally true."

"But how can an object achieve the speed of light without moving?" he persisted.

"It can achieve it potentially," she said. "The entire cycle is automatic—inevitable. You establish anti-gravity, which means weightlessness. That means zero inertia, and that means infinite acceleration, whatever the applied force. The interval between the application of the force and the attainment of the speed of light is infinitesimal—a formula in differential calculus. The instant any movement is implied the speed is already infinite."

"So . . . ?"

"So at the moment you shift from zero to inverse gravity, the Lorentz-Fitzgerald contraction takes effect, and the projectile twists into the time dimension. It's as simple as that, Russ. Here we've been probing the higher mathematics of anti-gravitational fields without ever realising the true meaning of the fundamentals. Anti-gravity and time travel are synonymous."

"You think that's the secret we weren't intended to discover?"

"I'm convinced of it."

"So what happens now?"

She came over to him and placed her hands on his shoulders.

"Russ, darling, I was wrong when I said we've had a raw deal. Fate was on our side, after all."

"Is it as important as that?"

"It won't be easy," she said, smiling. "There's going to be a hell of an inquiry, and a multitude of questions, and an eternity of soul searching. But we'll convince them, you and me. And on the next Agnes test we'll be working in the light, not in the dark."

"And the—the cone device."

"Hello and goodbye. It couldn't have succeeded, anyway, Russ. Whatever operated the thing must have been a direct descendant of you and me. Unless the secret of time travel had been discovered here and now, how could it have possibly returned?"

"There are many futures," he pointed out, recalling an echo from days that seemed long past.

She kissed him lightly. "Perhaps you're right, Russ. Which future shall we choose?"

An hour later they said goodbye to Kaluiki and were conveyed in the naval launch to the slender grey shape of the destroyer waiting beyond the lagoon.

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